The Builder.

VOL. LXVI. NO. 2671. APRIL 14, 1894.

ILLUSTRATIONS.

Building for the American Surety Company, New York.—Mr. Bruce Price, Architect ..... *Double-Page Ink-Photo.*
St. Marylebone General Dispensary, 77, Welbeck-street.—Mr. Beresford Pite, A.R.I.B.A., Architect ..... *Single-Page Ink-Photo.*
Metropolitan Life Assurance Offices, Moorgate-street, E C.—Messrs. Aston Webb and E. Ingress Bell, Architects ..... *Single-Page Ink-Photo.*
Interior, S. Petronio, Bologna.—Drawn by Mr. F. W. Bedford, A.R.I.B.A. ..... *Single-Page Ink-Photo.*
Palazzo della Casa, Genoa.—Drawn by Mr. T. Rogers Kitsell, A.R.I.B.A. ..... *Single-Page Ink-Photo.*
Hyde Park Mansions.—Mr. F. E. Eales, F.R.I.B.A., Architect ..... *Double-Page Photo-Litho.*

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To Advertisers and Patentees.

SOME little time since a pretty trenchant correspondence appeared in the *Times* in regard to the great and, it was asserted, increasing prevalence in newspapers and reviews, and more especially in publications devoted to the interests of special professions or trades, of a more or less organised system of giving, in the editorial portion of a paper, favourable notices—"puffs," they are called by the more profane—of materials or inventions, in exchange for an expenditure of money in the advertising columns of the journal. The natural contempt and indignation expressed by some of the *Times* correspondents in regard to such a system might have been a useful lesson to a good many people who seem to fancy that this is only the legitimate way of the world—of the journalistic world at all events. Unfortunately those who most need enlightenment on such a point were perhaps among the few who were likely to see and read the correspondence referred to. Having, however, only too good reason to know that this curious idea as to the principles on which journals may be conducted is a very wide-spread one among trading firms, it may be as well if we endeavour to put the matter once for all in a clear light in our own columns, and to explain generally what we have endeavoured to make plain to not a few correspondents privately.

We have then, constant epistolary evidence of the fact that a considerable number of persons engaged in the manufacture or sale of materials connected with building are under the full impression that the fact of being advertisers in a journal gives them a direct claim for favourable notice of their goods in that journal. In some cases letters making this claim are expressed in so insolent and high-handed a style as is quite inexplicable except on the supposition that the writers really imagine that in paying money to the publisher for space in the advertisement columns they have in effect bought the editor, and that he is not performing his part of the contract. During the recent Building Exhibition we received several letters from exhibitors who, in a like spirit, seemed to suppose that the duty and general practice of the editor or his representative was to visit such an exhibition with a list of the firms advertising in his paper, and pick out their works from the rest for recommendation.

There is something so preposterous in this idea of the function of a paper that it would be merely ridiculous if it were not so immoral. For consider what it really means. It means that a paper is to be an elaborate arrangement between advertisers and editor to gull the public. The readers of a paper which is concerned with a special class of subject are supposed to read it in order to get reliable information on the subjects in which they are interested. But on the principle which a considerable number of persons seem to regard as the natural and recognised method of conducting a paper, the publication would become merely an organ for recommending to the public—that portion of the public which are its usual readers—not what it is for their interest to know, but what it is for the pecuniary interest of the proprietors of the paper to recommend to them. It would seem that the mere statement of such a position ought to be enough to show the absurdity of it. But as we are addressing ourselves to those whose logical perception on these matters is evidently rather at fault, let us state clearly the principle on which every honourable and respectable journal is and must be conducted. It is simply this: the clients of the editor are his reading public, and his aim is to render his paper as useful and interesting to them as he can, by giving all the information that he can, and by taking every pains that it shall be correct and reliable. If he succeeds in doing this, and thereby securing a certain position and circulation, the advertisement pages of the paper become *pro tanto* a desirable means, to those who deal commercially in what the public wants, for making known what they have to offer, and putting their claims in any way that they may think most likely to secure attention. For the space to do this they pay money to the publisher, who represents the commercial interests of the proprietors of the journal; and in the long run the money obtained from advertisers is what forms the commercial backbone of the paper; and it is the one-sided perception of this fact that no doubt leads a number of advertisers to imagine that on that account they have a special claim on the good offices of the editor. The other side of the matter, which many of them obviously do not see, is, that the value of the advertisements is in direct ratio to the editorial status and ability of the paper, upon which depends the quantity and quality of its circulation; the quality ruling higher than the quantity, in commercial value. The *Times*, for instance, commands, we believe, higher terms for its advertisements than any other of our daily papers, though it is well known that its numerical circulation is lower than that of at least two other daily papers which might be named. It is the high character which the paper has always maintained, and the fact that it goes into the hands of the best class of readers, which give the value to its advertisements. And when advertisers ask an editor to go out of his way to praise their work, because they are advertisers, they are not only asking him to do what is immoral—since the public, who are his clients, look for the unbiassed truth from him—but they are actually asking him to cut his and their own throats; to take away from his paper the very quality which gives it its value to the public, and which consequently gives commercial value to the very advertisements which they themselves have paid for. For a little time the trick may answer, no doubt; but it is soon found out. The public are not so blind and stupid that they cannot see through that kind of thing; as that very correspondence in the *Times* that we have referred to served to prove. Even the very style of expression of a favourable notice given "for a consideration" is unmistakable; "its speech bewrayeth it;" it is impossible in the nature of things for a man writing a panegyric on such terms to simulate the manner of an honest and discriminating critic. If we were given a printed slip of miscellaneous notices of inventions or materials, we will undertake to say that we could pick out, from their mere style and wording, those which were honestly written and those which were mere puffs written as part of a bargain.

The reason why some of our correspondents apparently cannot recognise the truth of this view of the matter is, we believe, to a great extent, what need be called by no

worse name than want of knowledge of the world. That people do find those who are ready to exchange notices for advertisements is obvious enough from the nature of some of the communications which reach us. This very week we received a letter bringing to our notice a small but useful invention (which is noticed in another column of this issue), accompanied by the words "I cannot back this up with an offer of an advertisement, so must leave it to your kindness." Could anything be more painfully indicative of the extent to which this kind of bargaining for press notice must be going on? If manufacturers and inventors who reason thus had a little wider acquaintance with journalism in its best aspects, they would not imagine that such give-and-take practices were really the rule, or fancy (as some of them evidently do) that we are quixotic and peculiar in our notions on such subjects. If they look to some of the leading literary journals of the day, for instance, which deal with wider matters than those relating to a single profession and its attendant trades, they would find that the position we have laid down here is only the generally-recognised one. Take, for instance, such papers as the *Athenæum* and the *Saturday Review*, which derive the bulk of their income from the advertisements of publishers: they will find on one page the advertisements of a large publisher, on another page a bitter and cutting review of one of his publications—and the literary critic of the day, it may be added, wields the tomahawk in a more merciless manner than any other class of critic, on the whole. And we should like to see what sort of reply a publisher would get from the editor of either of those journals (and others we might name), if he threatened to withdraw his advertisements unless his publications were more favourably reviewed!

Another minor matter in which our trading correspondents are much at sea, is in their apparent inability to understand the distinction between the functions of the editor and the publisher. The editor of this journal constantly receives letters asking him for the terms for advertisements, of which he knows nothing; and this in spite of a "standing order" which has appeared in our columns, under the head of "Notices to Correspondents," for at least a quarter of a century*; and, correlatively with this kind of application, comes the complaint, "We are surprised that you have not noticed our patent something-or-other, as we are customers of yours." They are *not* customers of the editor's, they are customers of the publisher's. The customers of the editor, as already pointed out, are his reading public. The business of the editor is to make the paper as acceptable and useful as he can to his readers; the business of the publisher is, on the strength of the editorial character of the paper, to make the best sale of it that he can, and do the best business that he can with advertisers. The two departments are totally unconnected. The editor of this journal knows nothing about the advertisers, except in the same way that any other member of the architectural profession does, viz.: when he looks through the advertisements for some information he requires for himself. But it seems quite impossible to get some people to understand this.

If, however, we are compelled to point out clearly to advertisers that the fact of their occupying that position gives them no claim to editorial notice, we can at all events offer to those who are interested in building materials or inventions the compensating assurance that they are under no necessity of doing business with the publisher of this journal as advertisers in order to ensure attention from the editor. On this inverse position of the matter the patentees of new inventions especially seem in many cases to be much in want of enlightenment. Constantly we receive letters containing the particulars of a new patent with a request that it may be noticed, followed by the "P.S.—We intend to advertise shortly"; or perhaps, if the writer is rather a greater adept in the art of putting things delicately, the question is added, as a kind of after-thought, "What are your terms for advertising?" In many cases one is obliged to quietly pass over this, as probably only arising from ignorance and not from any improper intention; his own or others' experience in other quarters having probably convinced the patentee that a *quid pro quo* will be expected for noticing his work. In a few cases where this kind of suggestion has been made in a more gross and offensive manner, by telling one in plain English that "if a favourable notice is given, business may be expected to follow" (!), we have felt obliged to tell the writers plainly that whatever we might under other circumstances have said in favour of their patent, as they have offered us a bribe for a favourable notice we are compelled to decline any reference to it whatever. This is, no doubt, a departure for the moment from the position that our readers are our clients and want all the information we can give them; if the thing in itself is a good one we ought under ordinary circumstances to bring it under their notice; but it is of the first importance that the honourable position of entire independence should be maintained, and should be *known* to be maintained; and to tell people who write in this manner that their offers have no effect on what we may say would be useless; people of that kind judge others by themselves, and the only way to convince them of their mistake is to shut the door in their faces. Nor, again, is it of any use for patentees or inventors to bring or send us introductions from some one supposed to be of weight or to have interest with the editor. Such introductions, in regard to matters of that kind, are merely waste paper; they have no effect whatever upon the mind of any editor who knows his business, and merely cause some extra and useless trouble to the introducer and the introduced. There is only one way of getting a favourable notice of any material or invention connected with building into these columns, and that is to convince us that it is a good thing; and nothing is necessary beyond that. Any invention or patent which on the face of it appears to be worth investigation (some do not) is sure of attention, and the humblest artisan who has invented anything that is of value would receive as much attention from us as the largest manufacturing firm in the kingdom. Indeed we may confess that the one other point (besides that referred to just now) on which we are disposed to quit sometimes our position of thinking only of what is of value to our readers, is that we do feel, in addition, a very considerable sympathy, on his own account, with any man who has made a really new and clever invention, and find a pleasure for its own sake in recommending his work, more particularly if he is in a position in which public recommendation in print may be of considerable value and assistance to him.

It is not till after a good many years' experience of the constant misapprehensions which exist among manufacturers and others connected with the building trades as to the true principles on which every honourable journal must be conducted, and the real position of the editor of a journal towards those who advertise in it, that we have thought it well to offer them publicly these few words in explanation of what many of them evidently do not understand. It may all be summed up in these two axioms; first, that it is the duty of the editor of a journal to give his readers "the truth, the whole truth, and nothing but the truth," as far as he can see it, independent of any commercial considerations, and that the very status of his paper depends upon that; and secondly, that money paid to the publisher of a journal for space in his advertising pages purchases the use of that space, *and purchases nothing else whatever.* If those who have trade relations with this paper will bear th mind, we may hope that they will k refrain in future from addressing letters editor implying that his favourable op on their goods is a commodity that ca bought and paid for; an implication w in reality is nothing less than an in though we are sure that many who mak do not the least intend it in that light, are only misled by a want of appreciatio the true theory and principles of journali

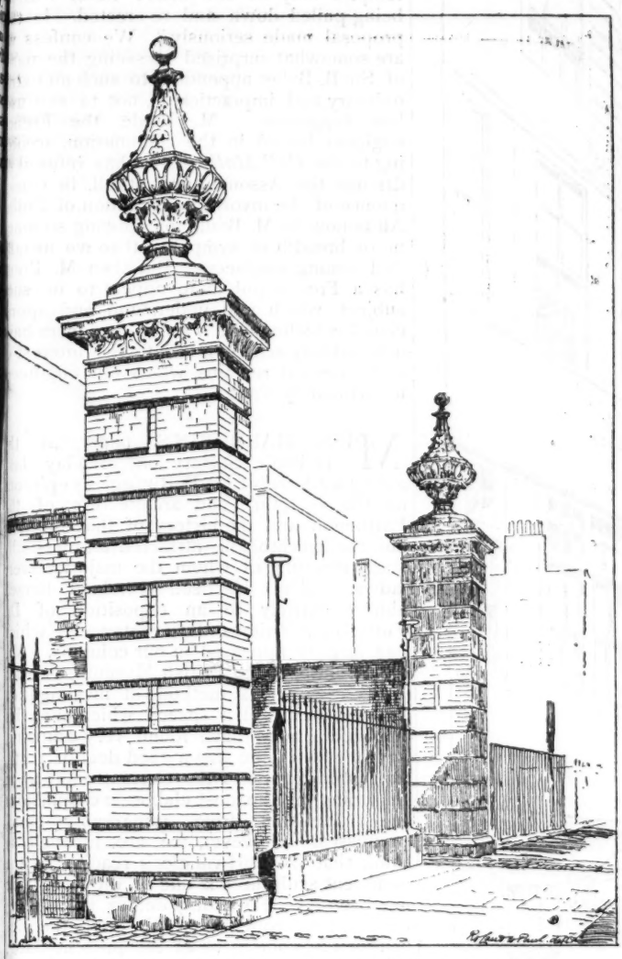
* We may add that architects are just as great sinners in this respect as commercial firms. They almost invariably address letters about advertisements to "The Editor."

VANISHING LONDON.

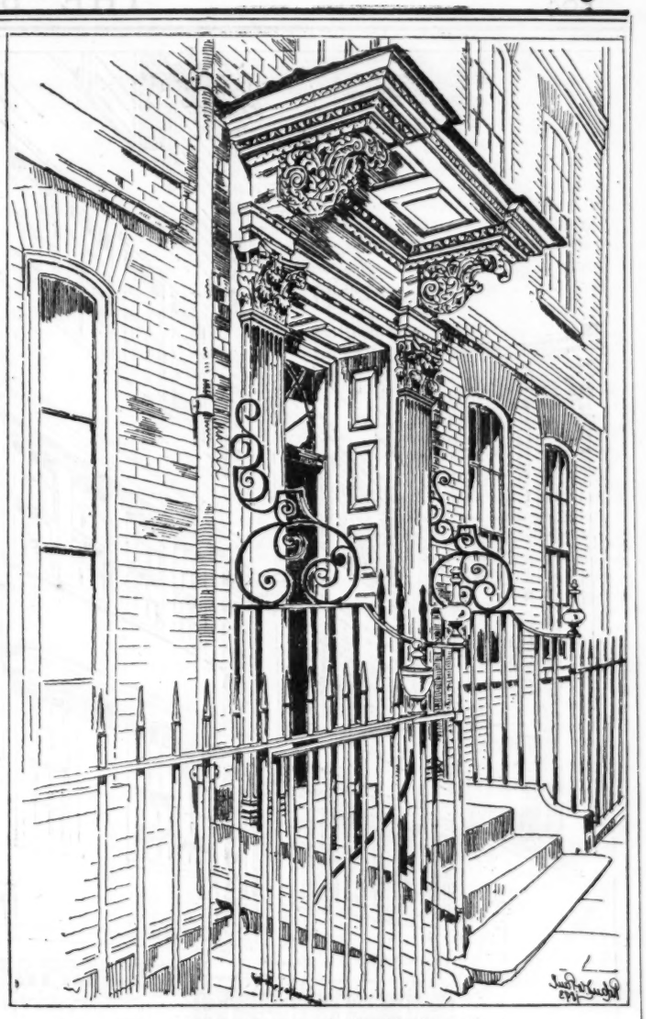
THE destruction of houses and ot buildings which recall the London of the English Rena sance has been going on, bit bit, for many years past, under the influe of the "march of improvement," and it is be feared is likely to go on, if anything, wi increasing ruthlessness and rapidity. It true that the interest in old buildings of th kind, and the perception of their picturesq character and historical value, has very mu increased of late years, but the increase activity in street improvements and rebuil ing of old and dilapidated properties h gone on *pari passu*, and in a few years ma old buildings which at present lend bo picturesque character and historic sugge tion to various London streets will probab have vanished. Though every effort shou be made to preserve such structure as long as possible, it is self-evident th in any case they cannot last for ever, and i some cases at least it must be admitte that their removal in order to give place t structures better fitted to the practical requir ments of the present could not reasonably b expected to be postponed. Against the us less and wanton destruction of any suc monuments of the past we should be the fir to protest; but the present life after all has it rights, and one cannot expect that peopl to whom house property of this kind ha ceased to be of any practical value shou preserve it at their own cost on account o its interest to other persons towards who they are under no special obligation. If th State, or the municipal governing body would expend some money from time t time in purchasing some of the most interes ing of these ancient relics and preservin them as "monuments historiques," as is n unfrequently done in Paris, it would b another matter. But we are now before a things an economical people, and any pr posal for such an expenditure of publi money would probably raise an outcr among the ranks of the Philistines, and be pu a stop to by the vote of a patriotic majority It is no use shutting our eyes to this; moder Englishmen, for the most part, are made so either by natural inheritance or by th demands of a rate-fearing constituency.

This being so, a volume of careful sketches of old London buildings, such as that brough out by Mr. Paul,* has a value beyond the mere artistic quality of the sketches, though this in itself is not inconsiderable. It is a record, carefully and faithfully made out, o buildings some of which have already dis appeared since the sketches were made from which these drawings have been prepared, while others will too probably disappear very shortly. Mr. Paul's drawings, though they may be regarded as a little dry in style, are essentially an architect's rather than a painter's delineations; that is to say, they are drawings in which the main object has been to record all the architectural details o the buildings clearly and faithfully, without omitting such effect of line shading as is necessary to give them a pictorial balance and completeness. Etchings showing the broad effect and general character of old buildings, such as Meryon made of portions of old Paris, have a higher value no doubt in another sense, but they are not such accurate records of the architectural facts. Mr. Paul's

* Vanishing London: A series of drawings illustrating some of the old houses, &c., in London and Westminster. By Roland W. Paul. Published by the author at 3 Arundel-street, Strand, London. 1894.



Gate-piers, Lindsay House, Lincoln's Inn-fields.



Door-hood and iron-work, Buckingham-street.

line sketches may be compared in this respect to those careful and precise little water-colour drawings with which Shepherd, in the early part of this century, did the same service for the vanishing London of his own day, and which are now entombed, as far as the general public are concerned, with the other treasures of the Crace collection, in the recesses of the print-room of the British Museum. It is one advantage of the line method of drawing that no such entombment need befall it. The drawings can be reproduced and multiplied in precise facsimile, and are thus available as private possessions; while the method of line-drawing, where architecture is concerned, gives facility for presenting, not indeed the exact appearance to the eye of an old building, but the exact architectural facts; and in this respect Mr. Paul has made conscientious use of it. The details of capitals, the profiles of mouldings, &c., are indicated with every carefulness and precision of line. In this respect the small collection of drawings will have a real value as a record of some of the old buildings of the present day, and will probably take its place as one of the standard records of old London, and be consulted and referred to as such by future archæologists.

There is not much of architectural elaboration in the buildings recorded in these sketches, except in some of the smaller bits of detail. A beautiful carved hood to a doorway in Grosvenor-road (plate iv.), still existing, is one of the richest and most elaborate of the series. Another door-hood, less rich in detail, but exceedingly graceful and classic in feeling, is that in Buckingham street (plate viii.), of which we have reproduced a copy of slightly smaller size than the plate in the book. In some of the less ornate examples we are struck with the degree of architectural expression and refinement which is produced by very simple means, as with the group of houses from Buckingham-street (plate ix.), where the projecting bay in the centre house contrasts so effectively with the flat treatment of the two on each side of it, in which the windows are just emphasised by keystones, in one house quite plain (voussoir shaped) on the other adorned with masks, and in both cases connected architecturally with the string-courses above the windows. Simple as these details are, they impart an architectural style and refinement to the fronts. The plain brick mass of Garden House, Clement's Inn (plate xvi.), with its two strongly-marked cornices breaking it into three heights, and the slightly-projecting brick pilasters, is another pleasing and characteristic example. Lincoln's Inn Gateway and part of Old Square (plates xx. and xxi.) produce effect by simple contrast of mass, and by the picturesque though perfectly unaffected treatment of the chimneys in the latter example. The introduction of the Classic order as a means of giving dignity to a plain street front is well illustrated in the old house in Great Queen-street, shown in plate xxvii.; and we have a somewhat similar example in the houses in Great St. Helens, Bishopsgate, where, by the way, the pilasters go straight up to the underside of the cornice and the usual machinery of architrave and frieze is entirely omitted, as in Mr. Belcher's building for the Chartered Accountants. A house in Austin Friars (plate xxxvii.) is an interesting example of the architectural expression given to an otherwise perfectly plain brick house by crowning it with a large modillion cornice. The Paul Pindar front, now in the South Kensington Museum, forms the subject of one of the illustrations. Among decorative details are those of a very fine ceiling from No. 17, Fleet-street, and also an exceedingly elegant fire-place from the same house. The rich ceilings from Paul Pindar's house and from Crosby Hall are the subjects of other drawings. One of the most interesting of the smaller illustrations is that of the two noble gate-piers in front of Lindsay House in Lincoln's Inn-fields, described in Hatton's "New View of London, 1708" (as Mr. Wheatley tells us), as "a handsome building of the Ionic order, and strong beautiful court-gate, consisting of six fine spacious brick piers, with curious iron-work between them; and on the piers are placed very large and beautiful vases." The "curious iron work" is gone, but the "spacious piers" and their vases remain, telling of the former glories of Lincoln's Inn-fields as a place of aristocratic residence. We reproduce the drawing of these. With the schemes that are in the air for a wide north and south street through this part of London, it is possible that these relics will not be long left. A carefully-drawn view of Middle Temple-lane, of which we also give a reproduction (see p. 284), forms one of the most interesting of the plates; and perhaps the very best, in regard to picturesque effect, is the one of Barnard's Inn, with its effectively-treated windows and elegant little cupola on the ridge of the roof.

It would have been more convenient to the reader if the letterpress descriptions, which are printed separately at the beginning, had been arranged in the same numerical order as the plates; we do not quite see the reason for doing otherwise. We should not have omitted to mention that drawings of that particularly interesting building Emanuel Hospital, Westminster, now departed, form the subjects of two plates, showing portions of the exterior architecture; and the record of this building is made more complete by a small plan of the hospital appended to the letterpress.

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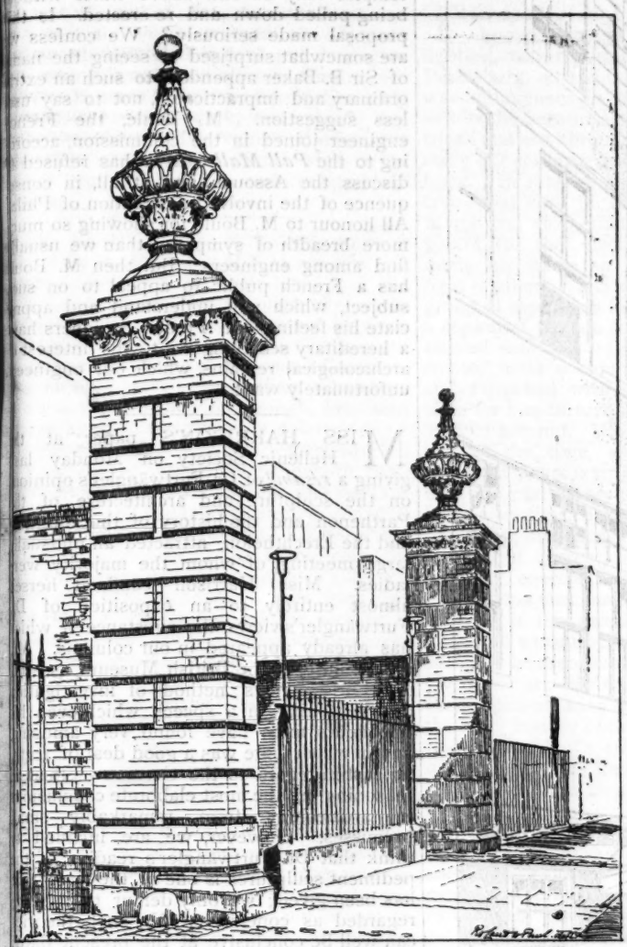
* We may add that architects are just as great sinners in this respect as commercial firms. They almost invariably address letters about advertisements to "The Editor."

VANISHING LONDON.

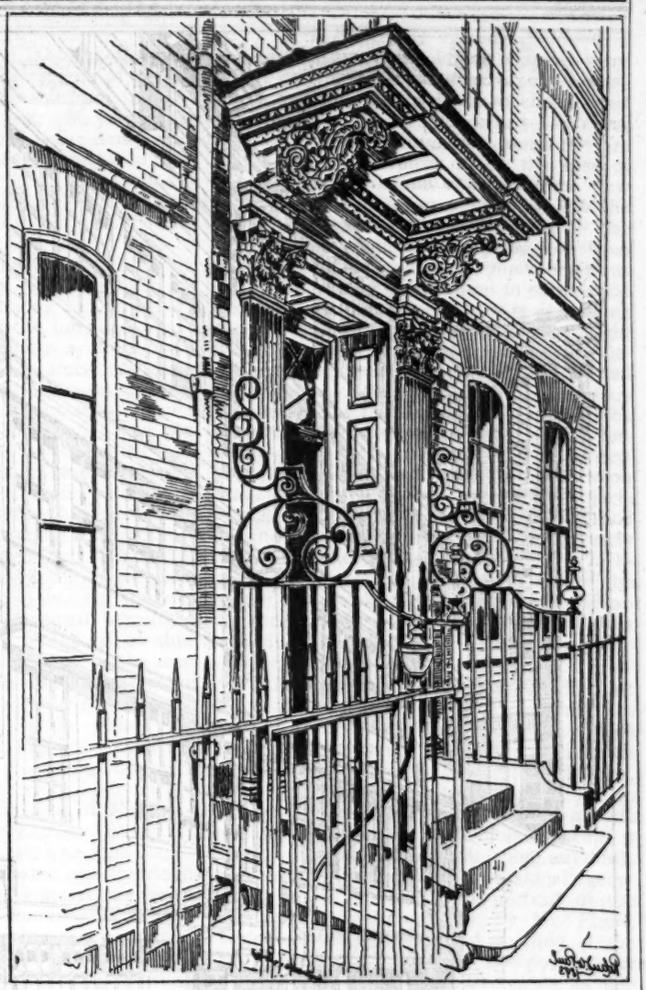
THE destruction of houses and other buildings which recall the old London of the English Renaissance has been going on, bit by bit, for many years past, under the influence of the "march of improvement," and it is to be feared is likely to go on, if anything, with increasing ruthlessness and rapidity. It is true that the interest in old buildings of this kind, and the perception of their picturesque character and historical value, has very much increased of late years, but the increased activity in street improvements and rebuilding of old and dilapidated properties has gone on *pari passu*, and in a few years many old buildings which at present lend both picturesque character and historic suggestion to various London streets will probably have vanished. Though every effort should be made to preserve such structures as long as possible, it is self-evident that in any case they cannot last for ever, and in some cases at least it must be admitted that their removal in order to give place to structures better fitted to the practical requirements of the present could not reasonably be expected to be postponed. Against the useless and wanton destruction of any such monuments of the past we should be the first to protest; but the present life after all has its rights, and one cannot expect that people to whom house property of this kind has ceased to be of any practical value should preserve it at their own cost on account of its interest to other persons towards whom they are under no special obligation. If the State, or the municipal governing body would expend some money from time to time in purchasing some of the most interesting of these ancient relics and preserving them as "monuments historiques," as is not unfrequently done in Paris, it would be another matter. But we are now before a things an economical people, and any proposal for such an expenditure of public money would probably raise an outcry among the ranks of the Philistines, and be put a stop to by the vote of a patriotic majority. It is no use shutting our eyes to this; modern Englishmen, for the most part, are made so either by natural inheritance or by the demands of a rate-fearing constituency.

This being so, a volume of careful sketches of old London buildings, such as that brought out by Mr. Paul,* has a value beyond the mere artistic quality of the sketches, though this in itself is not inconsiderable. It is a record, carefully and faithfully made out, of buildings some of which have already disappeared since the sketches were made from which these drawings have been prepared, while others will too probably disappear very shortly. Mr. Paul's drawings, though they may be regarded as a little dry in style, are essentially an architect's rather than a painter's delineations; that is to say, they are drawings in which the main object has been to record all the architectural details of the buildings clearly and faithfully, without omitting such effect of line shading as is necessary to give them a pictorial balance and completeness. Etchings showing the broad effect and general character of old buildings, such as Meryon made of portions of old Paris, have a higher value no doubt in another sense, but they are not such accurate records of the architectural facts. Mr. Paul's

* Vanishing London: A series of drawings illustrating some of the old houses, &c., in London and Westminster. By Roland W. Paul. Published by the author at 3 Arundel-street, Strand, London. 1894.



Gate-piers, Lindsay House, Lincoln's Inn-fields.

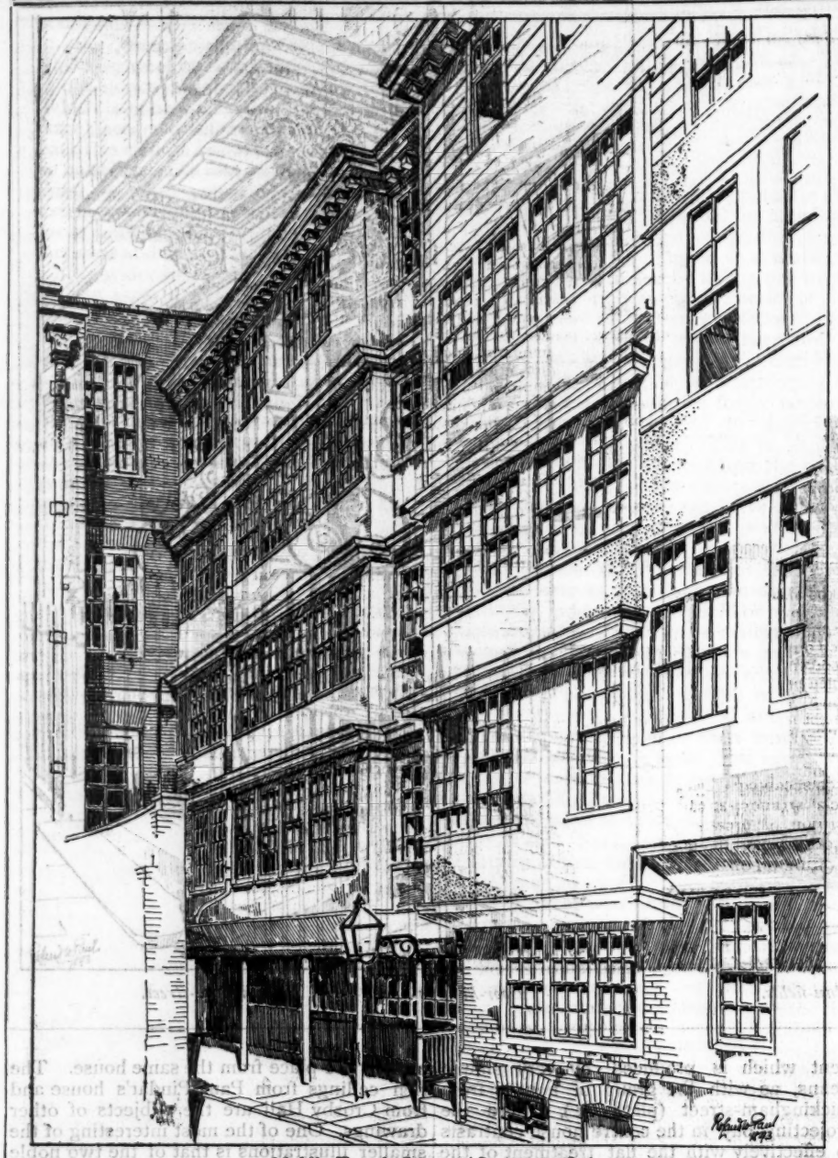


Door-hood and iron-work, Buckingham-street.

line sketches may be compared in this respect to those careful and precise little water-colour drawings with which Shepherd, in the early part of this century, did the same service for the vanishing London of his own day, and which are now entombed, as far as the general public are concerned, with the other treasures of the Crace collection, in the recesses of the print-room of the British Museum. It is one advantage of the line method of drawing that no such entombment need befall it. The drawings can be reproduced and multiplied in precise facsimile, and are thus available as private possessions; while the method of line-drawing, where architecture is concerned, gives facility for presenting, not indeed the exact appearance to the eye of an old building, but the exact architectural facts; and in this respect Mr. Paul has made conscientious use of it. The details of capitals, the profiles of mouldings, &c., are indicated with every carefulness and precision of line. In this respect the small collection of drawings will have a real value as a record of some of the old buildings of the present day, and will probably take its place as one of the standard records of old London, and be consulted and referred to as such by future archæologists.

There is not much of architectural elaboration in the buildings recorded in these sketches, except in some of the smaller bits of detail. A beautiful carved hood to a doorway in Grosvenor-road (plate iv.), still existing, is one of the richest and most elaborate of the series. Another door-hood, less rich in detail, but exceedingly graceful and classic in feeling, is that in Buckingham street (plate viii.), of which we have reproduced a copy of slightly smaller size than the plate in the book. In some of the less ornate examples we are struck with the degree of architectural expression and refinement which is produced by very simple means, as with the group of houses from Buckingham-street (plate ix.), where the projecting bay in the centre house contrasts so effectively with the flat treatment of the two on each side of it, in which the windows are just emphasised by keystones, in one house quite plain (voussoir shaped) on the other adorned with masks, and in both cases connected architecturally with the string-courses above the windows. Simple as these details are, they impart an architectural style and refinement to the fronts. The plain brick mass of Garden House, Clement's Inn (plate xvi.), with its two strongly-marked cornices breaking it into three heights, and the slightly-projecting brick pilasters, is another pleasing and characteristic example. Lincoln's Inn Gateway and part of Old Square (plates xx. and xxi.) produce effect by simple contrast of mass, and by the picturesque though perfectly unaffected treatment of the chimneys in the latter example. The introduction of the Classic order as a means of giving dignity to a plain street front is well illustrated in the old house in Great Queen-street, shown in plate xxvii.; and we have a somewhat similar example in the houses in Great St. Helens, Bishopsgate, where, by the way, the pilasters go straight up to the underside of the cornice and the usual machinery of architrave and frieze is entirely omitted, as in Mr. Belcher's building for the Chartered Accountants. A house in Austin Friars (plate xxxvii.) is an interesting example of the architectural expression given to an otherwise perfectly plain brick house by crowning it with a large modillion cornice. The Paul Pindar front, now in the South Kensington Museum, forms the subject of one of the illustrations. Among decorative details are those of a very fine ceiling from No. 17, Fleet-street, and also an exceedingly elegant fire-place from the same house. The rich ceilings from Paul Pindar's house and from Crosby Hall are the subjects of other drawings. One of the most interesting of the smaller illustrations is that of the two noble gate-piers in front of Lindsay House in Lincoln's Inn-fields, described in Hatton's "New View of London, 1708" (as Mr. Wheatley tells us), as "a handsome building of the Ionic order, and strong beautiful court-gate, consisting of six fine spacious brick piers, with curious iron-work between them; and on the piers are placed very large and beautiful vases." The "curious iron work" is gone, but the "spacious piers" and their vases remain, telling of the former glories of Lincoln's Inn-fields as a place of aristocratic residence. We reproduce the drawing of these. With the schemes that are in the air for a wide north and south street through this part of London, it is possible that these relics will not be long left. A carefully-drawn view of Middle Temple-lane, of which we also give a reproduction (see p. 284), forms one of the most interesting of the plates; and perhaps the very best, in regard to picturesque effect, is the one of Barnard's Inn, with its effectively-treated windows and elegant little cupola on the ridge of the roof.

It would have been more convenient to the reader if the letterpress descriptions, which are printed separately at the beginning, had been arranged in the same numerical order as the plates; we do not quite see the reason for doing otherwise. We should not have omitted to mention that drawings of that particularly interesting building Emanuel Hospital, Westminster, now departed, form the subjects of two plates, showing portions of the exterior architecture; and the record of this building is made more complete by a small plan of the hospital appended to the letterpress.



Middle Temple Lane.—(*See page 283.*)

NOTES.

THE result of the debate on the London Water Bill is a forecast, we fear, of what we may expect as the result of a Water Commission which ignored the very point which ought to have been the leading subject of its inquiries—viz., the possibility of an ultimate ample water supply for London for an indefinite period, and confined itself to showing that the present unsatisfactory sources of supply would be sufficient for a period of forty-five years or so. The result of the Commission is, however, treated by the London water companies and their supporters as if the inquiry had been a general one into the possible sources of London water supply, and had established the fact that the present is the best supply possible; and now we shall have all the water companies applying for and probably obtaining powers to deplenish the Thames further, on the ground that a Royal Commission has ruled that there is nothing better to be done. *Et après?* When the forty-five years have expired, what then? Forty-five years is much in the life of an individual, but it is little in the life of a city like London. The result of this partial and one-sided inquiry is that we are to go on getting water from an unsatisfactory and limited source for forty-five years, and at the end of that time the next generation of Londoners will have the main problem still to face, after large sums have been expended in provision which must in its nature be temporary, and after the Thames has been drained to the last point that it will bear. It is really like lunacy.

THE discussion as to which is the best brick for ordinary walling, which has been going on in our Correspondence columns, when cleared of *ex parte* statements and prejudice, and assisted by our own experience, points to the conclusion that in respect of durability there is little to choose, as far as time has at present shown, between stocks, Fletton, and gault bricks. In each case it is, of course, understood that care and skill are employed in the manufacture, for it is without question that many pressed bricks, and especially those used for facings, have failed by exposure to weather; gault bricks also, though perhaps less prominently, have been found wanting in durability, and especially in toughness. The appearance of bricks is so much a matter of taste that no universal consensus of opinion is at all probable. There are architects of our acquaintance who, so far from being displeased with the roughness and irregularity of the ordinary stock, appreciate the texture resulting therefrom so highly as to prefer "shippers" to the usual facing qualities.

IT appears that the commission of engineers in regard to the dam across the Nile have issued their report, two of them, Sir Benjamin Baker and Signor Torricelli, recommending the site below Philæ, Sir B. Baker undertaking to raise the island of Philæ bodily so that the temples may be still above water without being pulled down and re-erected. Is this proposal made seriously? We confess we are somewhat surprised at seeing the name of Sir B. Baker appended to such an extraordinary and impracticable, not to say useless suggestion. M. Boulé, the French engineer joined in the commission, according to the *Pall Mall Gazette* has refused to discuss the Assouan site at all, in consequence of the involved destruction of Philæ. All honour to M. Boulé for showing so much more breadth of sympathy than we usually find among engineers. But then M. Boulé has a French public to appeal to on such subject, which will understand and appreciate his feeling, and French engineers have a hereditary schooling as to the interest of archæological remains, which our engineers unfortunately want.

MISS HARRISON'S paper at the Hellenic Society on Monday last, giving a *résumé* of Dr. Furtwängler's opinions on the sculpture and architecture of the Parthenon and the history of that building and the Erechtheion, attracted an unusually large meeting, of whom the majority were ladies. Miss Harrison confined herself almost entirely to an exposition of Dr. Furtwängler's views, the substance of which has already appeared in our columns. Mr. A. L. Smith, of the British Museum, assailed Dr. Furtwängler's methods of investigation and reasoning in a speech which even his opponents must have found very amusing, and in which there was a good deal of truth, at least in regard to the German method of reasoning out the most elaborate conclusions in archæology from remarkably small premisses. However, we are inclined to think that Dr. Furtwängler's reading of the pediment sculptures is one of the best that has been given; we only demur to it being regarded as conclusive. No such theories can well be conclusive at the present date; it is only a question of probabilities, though it will always remain a most interesting field for archæological speculation and argument. The architectural side of the subject was hardly touched upon.

THE "Société Archéologique Alexandrienne" has just issued a letter asking for subscriptions to form a fund for the systematic excavation of certain portions of the ancient city of Alexandria. Tentative excavations have been already made by the Director of the Museum there, Dr. G. Botti, and his report is appended to the appeal. We are also furnished with a map of reference, showing the portions already explored and the proposed plan of campaign. There can be no question that Alexandria is a deserving site, if any, for the possibility of the finding of important MSS., and it must be rich in Hellenistic remains. Considerable efforts have been made locally, but it is now thought well to appeal to a wider public. A subscription of one Egyptian pound (*i.e.*, twenty-six francs) constitutes membership, and may be sent to Mr. John Reeves, the President at Alexandria. If sufficient funds come in, it is proposed to proceed to work at once, and to issue a bulletin of the excavations.

A LETTER in the *Standard* from Mr. Perry a few days since drew attention, in terms in which we entirely sympathise, to the extraordinary action of the South Kensington Museum authorities in practically destroying the splendid gallery of casts which had been formed adjoining the architectural court. The casts were there seen all together in an admirable light, and in most suitable proximity to the architectural court. All this has now been altered, and the casts are arranged in a long and very badly-lighted gallery, where no one can see or study them properly, while their original room has been filled with textiles. A more ill-judged change could not have been imagined; it has robbed South Ken-

sington of one of its greatest attractions. We had for years wanted an adequate gallery of casts in London; and having at last got it in a most satisfactory manner, we find the Museum authorities have deliberately undone their own work, and placed the collection where half its value and effect are lost. We should like to know what is the official reason for this unfortunate proceeding.

SIR JOSHUA REYNOLDS'S summer villa on Richmond Hill is for sale. It stands close to Nightingale-lane, and the "Star and Garter" Hotel, originally established in 1738, under an agreement between the Earl of Dysart and one John Christopher, upon a piece of waste of Richmond Common. Reynolds employed Sir William Chambers as his architect; the villa, though, has been altered by additions since the painter's day.* His negotiations for purchase were conducted by Thomas Hickey, whom Goldsmith commemorates in the "Retaliation," and perhaps a relative of the William Hickey who founded by his will of 1727 the Richmond Almshouses which were re-built at the Marsh-gate, on the Marshgate-road, after Lewis Vulliamy's plans and designs, 1834. It was from this house that Reynolds painted his picture of the view of the Thames valley looking over Petersham Woods. In a house opposite lived Mrs. Fitzherbert, during the Regency. The "Star and Garter," banquetting-house, &c., were planned and designed by E. M. Barry, R.A., 1864-5.

ONE of the most serious results of the delay in the settlement of the railway rates controversy is the confusion which has arisen with regard to the payment by traders of their ledger accounts with the railway companies. They have been advised by the Mansion House Association and others to pay nothing in advance of the old charges, and many have acted upon this advice; while some have gone beyond it, and declined to settle their accounts at all until readjusted. Others, again, appear to have withheld an arbitrary percentage of the total of their accounts, leaving balances considerably in excess of the amount representing increases in rates. Under ordinary circumstances it is probable that the railway companies would make short work of their refractory customers, and set the law in motion to obtain payment of outstandings. But although the magnitude of the undertaking has restrained them from taking any general action in this direction, they have still found it practicable in many instances to bring pressure to bear upon defaulters by closing their accounts. This has led to complaints being made to the Board of Trade, and the Board at once requested the companies to reconsider their action pending the decision of Parliament upon the Report of the Select Committee. The correspondence which ensued has now been published, and we notice that the Railway Association has made a very fair offer as regards increased rates. Sir Henry Oakley states that they are prepared to submit to the Railway Commissioners any advanced rate the reasonableness of which is questioned. They will accept the decision of the Commissioners, and are prepared to agree to proceedings of this description being instituted and maintained without a liability for costs on either side. Sir Courtenay Boyle has expressed the satisfaction of the Board of Trade at this announcement, but intimated, at the same time, that the Board feel it their duty to proceed with their Bill, giving effect to the recommendations contained in the Select Committee's Report. As to the closing of accounts, the Board could, of course, do no more than urge the Companies not to interfere with the freedom of trade; and their course in this respect will doubtless be regulated more by considerations of "policy" than by the representations of the Board.

* It is now known as Wick House. *Confer* Mr. E. B. Chancellor's "Historical Richmond," pp. 186-7 (1885).

THE death of M. Paul Jablochkoff, a well-known name in the records of electric lighting, was reported by telegram from St. Petersburg on the 6th inst. M. Jablochkoff was an engineer in the Russian Army when in 1869 he became actively engaged in electrical matters through being called upon to carry out certain experiments for the Government. In 1875 he went to Paris and became connected with M. Breguet, and it was on March 23, 1876, that he obtained the first patent for the electric candle which has made his name so famous as an electric light engineer. During the following year a group of capitalists formed a syndicate with a capital of 500,000 francs, afterwards transformed into the "Société Générale d'Electricité," with a capital of 20,000,000 francs, and furnished with these funds it was possible for him to turn his inventions to commercial account. His candle was an attempt and, at the time, a successful attempt, to construct an arc lamp without any mechanism beyond the necessary switching arrangements. It is sometimes forgotten that Jablochkoff originally intended his candle to be used with direct current, but it was not found to be really successful until equal burning of the carbons was ensured by the use of alternators. If the candle did not fulfil a want it created a need, and the name of Jablochkoff will ever be associated with the great impulse given to arc lighting at the time. The candle proved such an important factor in the early history of the electric light industry that Jablochkoff's other work is frequently overlooked. His kaolin lamp, if not a successful one, was an early attempt at lighting by incandescence. In 1878 he took out the first patent for his alternator, and during the same year made various suggestions for the use of transformers in conjunction with his candles. He was the author of a good many inventions, but they are now mostly forgotten. Unfortunately for himself Jablochkoff was a pioneer; he made a great name, but others have reaped the ultimate fruits of his labours.

IN Mr. Balfour's paper on "Evolution in Decorative Art," read before the Art Section of the Society of Arts, Tuesday, April 10, he described briefly some of the changes undergone by art designs, especially for decorative effect, and the causes which produced these changes. In introducing his subject he observed that archæology alone was powerless to impart a thorough knowledge of the history and development of the art of design, and that, to supply the deficiency, the kindred science of anthropology was needed. Archæological relics of the past were few, and, in many instances, *nil;* it was during the so-called "Cave Period" that man showed in the decoration of his implements skill of no mean order for the art of design; it was, therefore, the study of the living race that gave soul and life to the not all-sufficient science of archæology. There were three stages in the development of any art: appreciative, adaptive, creative. The first, the introductory, was a borrowing from Nature's suggestions, this was evinced by those early savages in the make of their implements which resembled some familiar object, an animal, or the human form. In the second stage these resemblances were added to by artificial means, as an eye at the right place to an animal's head; the carving of the mandrake root, thus increasing its resemblance to the human form. Out of this evolved the creative stage, when decorative effects and representations were produced at will. This was the foundation-stone of art industry and the development of the initiative faculty. In the representations of objects it was not unlike that graphic art was a development of pla.ic art. One of the chief agents of variation in design was copying, copying from the original and from successive copies; here amusing instances were given and illustrated of differences between the original and successive copies. Such changes were due to carelessness and inaccuracy—*unconscious variation;* or a desire to change and improve upon the design copied—*conscious variation.* Some ornamental designs were varied with a purpose, as in the case of Japanese family crests which assume new forms for new branches of families, at the same time retaining close likeness to the original. Mr. Balfour then passed on from those art designs which were representations of the human and animal form to ornamental designs. He pointed out how in examining these forms of decorations some clue might be obtained to the different stages of development through which the object had passed, as *e.g.*, the wooden dishes used by the natives of the Andaman Islands which resembled in shape the large shells formerly used as plates for food. A certain species of outward ornamentation was that to be seen on some objects which being changed in structure had retained as ornament what had formerly been turned to use, as the figure of a lock-plate engraved upon the breech end of the gun, to be seen on the air-guns of an Austrian regiment, on the point where the actual plate would have been.

THE Exhibition of the New English Art Club (Dudley Gallery) contains less of mere eccentricity than last year, and includes some things that one can see with pleasure and interest. It would be difficult, from the exhibition taken generally, to evolve any decided theory as to the artistic principles professed by the club, except it were a general dislike to finishing anything, and even to this there are occasional exceptions, as in the admirable portrait of the Rev. A. T. Lyttelton (72), by Mr. Furse, which occupies the central position at the top of the room. Some of the portraits, or "studies of a young lady," &c., are as ugly and repellant as usual, as if the object were to show how to make a recognisable likeness while depriving the face of every charm of natural modelling and natural colour. Mr. W. Sickert goes beyond even this in his daub entitled "The Sisters Lloyd" (54), a kind of thing which it is astonishing that the conductors of any exhibition can have the assurance to hang up seriously for the public to look at. Miss Beatrice Malcolm's "Little Girl with a Macaw" (27), is a tolerably large work in which the bright colours of the macaw on one side and of the doll on the floor on the other side assert themselves in a striking manner out of a composition which is for the most part kept in low tones, but is very harmonious in effect. Mr. Edward Stott's "In the Moonlight" (50) has far too much colour for moonlight, as he would find if he had to paint that picture by the light of the moon and nothing else; Mr. Aumonier's "Moonlight Sketch" (52) is much nearer the mark. The "Marine" (58) by Mr. Wilson Steer, who sees the sky on a bright day cut into vertical strips of white, is about as natural as Mr. Holloway's "Yarmouth Roads" (70), where ridges and furrows of brown clay are offered us as water. Among the experiments that are of some interest is Mr. Cadby's "Portrait" (39) of a lady seated amid a considerable mass of accessories, which seems to have been painted with the object of giving the picture some of the effect of a metal inlay, a flat but sheeny surface. The effect is of course unpictorial, but yet not hard, and the means by which it is produced are not easy to unravel. In "The End of an Afternoon" (86) Mr. Francis Bate realises a beautiful effect of soft warm light on a landscape, and there is a true open-air light and colour in Mr. Charles's "Summer" (90). We may mention also "St. Ive's Bay, Night-Trawlers," (47) by Mr. Lindner; "The Lagoon, Venice" (87) by the same artist; "Cows in an Orchard" (92), by Mr. Mark Fisher; "Study of a Head" (96) by Mr. Carter; "The Two Sisters" (97), a fine cat sketch by Mr. Tomson; "St. Ives Bay, Early Morning" (105), by Mr. Lindner; pencil "Sketches

and Studies" by Mr. E. Sullivan; "Finger-plate in Gesso and Coloured Lacquer" (23) by Mr. Silver, and "Fishing Boats, Venice" (4) by Mr. Brabazon, a good bit of colour without any definite form, which appears to be one of the things we are to seek after nowadays.

THE two pictures by F. Flameng to be seen at Messrs. Goupil's Gallery, of scenes in the early life of the First Consul, at Isola Bella and at the Château of Malmaison, are exceedingly interesting, not so much from the artistic as from the historical point of view; they are not works that anyone would care very much for in regard to mere pictorial power, but give the impression of being very real reproductions of the life of the time they represent and of the personalities of some celebrated characters in modern history in their younger days: Murat, Soult, Josephine, and others. This realistic interest is of course the scoff of the art-critic of the advanced school, but there are a good many people (not necessarily fools) to whom this use of painting to revive the life of the past is still not without its value. The collection of Dutch paintings in the same gallery includes good work and good names, but we did not find it very interesting as a whole. There are two or three good examples of the art of Sadée and Maris, and "Anemones," by Versler, is a remarkable piece of colour. Messrs. Goupil have got their new gallery into a complete and effective state now.

THE small collection of pictures at present to be seen at Mr. Maclean's gallery in the Haymarket includes an admirable cattle piece by Mauve, of rather larger size than is usual with this artist, who (if this is a recent work) has given up what may be called his partial eccentricity of colour and composition while preserving all the finer qualities of his art. A picture by Jules Breton, "The Gleaner," is a good specimen of his lighter and more idyllic vein, appropriately hung under a picture, "Threshing Beans," in which Mr. Clausen has done his best to emulate Millet in the quality of energetic action and direct simplicity and realism of motive. There are one or two small but exceedingly fine examples of Mr. Henry Moore's seas; a good landscape by Mr. Wimperis, and other things of interest. Mr. Graham's large painting, "Scotch Coast Scene," is spoiled by the bad sea. Mr. Vastagh's life-size head of a lion is good, in a kind of realistic menagerie fashion.

ROYAL INSTITUTE OF BRITISH ARCHITECTS:

THE COUNCIL CHAMBER AND ITS ACCESSORIES.

AN ordinary meeting of this Institute was held on Monday evening last, at 9, Conduit-street, Mr. J. Macvicar Anderson (President) in the chair.

The minutes of the previous meeting having been read and confirmed,

Mr. Thomas Blashill read a paper on "The Council Chamber and its Accessories."

The offices in Spring-gardens now occupied by the London County Council were, he said, designed for the Metropolitan Board of Works by the late Mr. Marrable, who was the first Superintending Architect of Metropolitan Buildings and the Architect to the Board. They were opened in 1861. The number of members of the Board was at that time forty-eight; in the year 1885 that number was increased to sixty-one, and the Board-room was of ample capacity for the accommodation of the larger number. It was a rectangle on plan, measuring 50 ft. by 30 ft., and about 30 ft. in height. In respect of ventilation and acoustics, however, the room was extremely unsatisfactory. The heating-chamber, formed under the centre of the room, was fitted with hot-water pipes; fresh air was conducted into the chamber, and was supposed to find its way into the room through pedestals and upright tubes fixed against the walls. The tubes were generally kept shut. In warm and cold weather alike draughts were generated, of which members complained. When, in 1889, the London County Council was elected, its first meeting held in the old Board-room showed the necessity for an enlarged chamber for the accommodation of its 137 members—nearly three times the number for which the room had been designed. He was instructed to undertake the task. The only practicable way of obtaining more space for the Council Chamber was to extend the old Board-room on the northern side; and the first question was as to the shape which it should take. He was, in the first instance, rather strongly urged to make the new chamber something of a rectangular shape, the seats and the back wall being laid out in a rather flat curve, as is usual in the pit of a theatre. But in a chamber so arranged, a member in one of the front rows would have his audience behind him, unless he should turn round and face them, while a speaker in any of the back rows would be unseen by his colleagues. Upon full consideration it seemed clear that the best form would be a chamber with a semi-circular end and a semi-circular arrangement of the seats, the whole of the seats being placed as near the walls as possible. This would leave a clear space in the centre of the chamber—the place from which no one could speak with comfort. Such an arrangement could be brought about by taking down the north wall of the old board-room and making the new wall semi-circular. This was made practicable by the use of a wrought-iron lattice girder of 50 ft. span to carry the heavy roof from which the supporting wall was to be removed. The only variety in the symmetrical shape of the chamber was necessitated by the requirement of a public gallery, and this was made to extend round and outside a portion of the new semi-circular wall. The architectural details of the building, as it now exists, grew entirely out of the original design of Mr. Marrable's board-room. The additional pilasters upon the walls, the columns carrying the roof at the public gallery, with all the architectural enrichments on walls and ceiling, were simple reproductions, or so arranged as to correspond with the old work. The columns and pilasters were of scagliola, covering cast-iron stanchions where necessary, and the old pilasters were painted to look like the new. The press gallery at the back of the chair seemed to require some special treatment, and in that case the Ionic style was used in the columns, instead of the Corinthian which had been adopted in the larger features of the chamber.* He was rather anxious about the height of the room, for 30 ft. did not seem too much for the old board-room, which was going to be so greatly enlarged. By dropping the central portion of the floor, and placing the seats upon a rising slope, an additional height of 15 in. was gained in the centre. In the chamber every door had a check-spring fixed in the floor so that it could not be slammed. The parts of the floor most subject to wear were laid with Napier matting of a dead green colour made from jute. The floors between the seats were laid with a dull green drugget upon common grey felt—an idea which he got from the Union Society's rooms in Cambridge. Besides being comfortable, it was impossible to get any noise out of it. The woodwork of the seats likely to be struck by the feet was covered with ribbed vulcanised india-rubber. The stuffed leather work was brought right over the backs of the seats to avoid hard surfaces. The lower parts of the walls of the old board-room were covered for a height of about 8 ft. with heavy woollen hangings in the hope of deadening the sound. The long benches were divided by elbows measuring 2 ft. from centre to centre; the measurement from back to back was 4 ft. The long benches were so arranged as to contain at least three, and at most six, seats. Six should be the maximum. It allowed every member to find his seat without passing more than two other persons. The details of the tables were then described, and the arrangement of the chairman's desk and platform. As to acoustic qualities, ordinary conversation could be heard in the chamber over its whole extent. He could not speak quite as favourably about the ventilation. The old system of passing fresh air over a coil of pipes in a heating-chamber in the floor had been continued. There was a grating in the floor which could be kept open or shut, and there were upright tubes by the walls. He was not sure that these were of any use. Over the ceiling was an exhaust fan driven by hydraulic power that could be regulated. When going at its full speed the air entered the chamber too quickly, and, therefore, insufficiently warmed. As a rule, the draught caused by one of the sm lights was sufficient to draw the air from heating-chamber at a proper temperature. cold weather the heating-apparatus was kept go during the greater part of the week, so that chamber ought never to be quite cold, and he not think there was much complaint on that sco But in warm weather, as in cold, there we certain members who complained of draughts. thought these were generally caused by curre of air falling down the cold walls. The surfac of such walls should be plastered with coa material and finished with a rough surface. A finishings of smooth, hard cement were objectio able, as causing condensation and chilling the a that comes in contact with them. The chamb was lighted by three sunlights, which assisted warming the air. There was, in addition, a com plete system of electric lighting. The pape concluded with some general remarks as to th arrangement of buildings of this class so as t fulfil their purposes most conveniently.

* We may observe that the "special treatment" of the reporters' gallery does not include the practical desideratum of rendering it commodious and comfortable for the reporters, though this may have been intended. Great complaints are made about it in this respect.—ED.

Mr. Charles Fowler suggested that Mr. Blashill should say what was the level of the new Counci Chamber, and whether there was a story under neath which was lighted.

Mr. Blashill replied that the chamber was on the first floor, the room underneath was well lighted by windows occupying the whole of the wall, and there was an area with glass which lighted a portion of the room.

Mr. Wm. Woodward said he had not quite gathered what was the form of the room, and the material of which it was constructed.

Mr. Blashill said that the roof was constructed with a cove; where the old wall had been removed the roof was carried now by a 50-ft. girder, and another girder was placed about 16 ft. in the rear. The chamber was entirely lighted by those coved lights around the room, and a large amount of ventilation was got from these.

Mr. Aston Webb, in moving a vote of thanks to Mr. Blashill for his paper, said that, although he had never built a council chamber, he had built several chambers used very much in the same way, and he ventured to think this was one of the most practical and useful papers that could be read to practising architects. It was said that the present time was the time of talk, and, therefore, chambers in which talk would take place were likely to be erected in increasing numbers. With regard to the acoustics of such a building, his own experience was that plaster was not a good acoustic material with which to cover the walls, and he understood that Mr. Blashill was of the same opinion, because he appeared to have covered his walls with some woollen material. He, the speaker, had tried wood panelling, which was an admirable material for covering the walls of a room in which speaking was to take place. It seemed to act as a violin did in regard to the strings, for, without giving any echo, it appeared to carry the voice well. He could not help thinking, while Mr. Blashill was speaking, how excellent a room for hearing they were in at the present time, although many of the conditions seemed to be absolutely against it. The central dome, for instance, one would fancy would give an echo, but he had never noticed anything of the sort. He believed it was admitted by everyone that the requirements for a perfect acoustical room had not yet been formulated, and that architects could only, as it were, go by rule-of-thumb, and follow their own experience. His experience was that a smooth plaster wall was a resonant material to use. When building the courts at Birmingham they had many conferences with the Judges, who were going to use the courts, and they all stated that one of the things which annoyed them more than anything else was the continual click-clack and jarring of some of the swing doors. They at last found one door which was quieter than the others, and although that particular door turned out to be the weakest in construction, and the one least likely to last, they adopted it for the courts themselves, using the stronger and rougher springs for the outer doors. Another point, which must occur to everybody who had designed chambers of the kind, was the position of the Press. Mr. Blashill appeared to have put the Press into a gallery behind the chairman, and he did not seem to be quite sure whether the position was altogether satisfactory. He (the speaker) had on one or two occasions consulted the Press about the position in which they liked to be placed, and he had never heard them express any other opinion than that a gallery was the most unpleasant place in which to work. The general opinion amongst reporters was that the right place

for the Press was between the speaker and the chairman, very much as the reporters were placed that evening. In all the courts at Birmingham the Press had been so placed, and he was glad to say that they were satisfied with the position. There might be the difficulty, which Mr. Blashill had mentioned, of attempts to get at the Press by members of the County Council, but otherwise the best position would be just below the platform, and in front of the chairman. In covering the floor he had used very much the same material as Mr. Blashill—a dark green material, which wore well, and was absolutely quiet for the footstep. As to ventilation, he had always endeavoured to heat a room independently of the warmed fresh air brought in. He had direct radiation in the chamber itself by means of hot water or steam radiators. Referring again to the acoustics, he thought the height had a good deal to do with that, and it was not well, as Mr. Blashill said, to have a chamber too high. Although it might be good from an architectural point of view, from an acoustical point of view it should be kept low rather than high.

Mr. J. M. Brydon seconded the vote of thanks, and considered that the subject brought forward by Mr. Blashill was an eminently practical one, as a great many Municipal buildings were being erected throughout the country. He had no doubt that Mr. Blashill had been hampered to a great extent in carrying out the present County Council Chamber. The ordinary provincial Council-chamber was not so large as that of the London County Council. The great point in a Chamber of the kind was that the members should hear each other, and the difficulty was to keep down the size of the Chamber so that everyone could hear and see distinctly, and that it should have, at the same time, some sort of architectural effect, representing, as it did, in a concrete form, the ideal of the Municipality of the time. There were two or three points, which had been brought forward that night, which were instructive, and one was as to the size of the room. He had found by experience in one Council-chamber that the roof must be kept as low as possible. The difficulty all along was to keep down the echo. In the Council-chambers of certain provincial towns there was a good deal of coming and going, and putting the seats right up to the walls he considered would be rather a mistake. He fancied, therefore, that a passage should be left round the seating, so that all the members could come and go to their seats without crossing the room. Everything should be utilised which tended to deaden the sound in the way of panelling, which he had adopted with some success, helping as it did to keep down the reverberation of sound. Sometimes a provincial Council-chamber was used for other purposes than meetings of the Council. It was one of a suite of rooms, and when the Municipality gave a great entertainment, it often happened that the room was made into a sort of reception-room or tea-room. The designer had, therefore, to think of its being utilised for other purposes than that of a talking chamber. Then, again, the room was usually part and parcel of a suite, and must to a certain extent be treated architecturally. He found that by cutting the walls up, or by projections into the room, the echo was prevented, and the acoustics very much helped, and this was a means by which a certain amount of architectural effect could be gained. The meetings of a Council were public, and so a gallery had to be provided for the community. They were constantly coming and going, and, though he would be the last to say that the debates should be held *in camera*, a large public gallery was not at all desirable. If two rows of seats were provided for the public it would be generally found sufficient, as it was only on special occasions that the gallery would be full, and then the ventilation would be put to its severest test. Again, in the case of the Press gallery, a table placed at the side of the mayor and aldermen, between them and the speakers, either to the right or left, had been found by experience to be an extremely convenient situation, very much as the reporters were placed, he believed, in Mr. Webb's Courts of Justice at Birmingham. He, the speaker, once designed a Press gallery, but he found the Press would not go there, and rather came down to a table in the room. It was necessary also to have seats and tables in the body of the room for deputations, which often came. In the matter of seating, he quite thought with Mr. Blashill that the separate seating system, where every man had his own desk, was an unnecessary waste of space, and that a bench holding from two to six people would probably be found the best plan, with a desk in front of sufficient width to hold ordinary foolscap paper.

Mr. William White, F.S.A., agreed that the best position for the Press was, as Mr. Webb had said, immediately in front of the chairman, and between him and the audience. He could not help thinking that the matter of hearing depended very much more upon the proportions of the room than upon the material with which the walls or floor were covered. He had no doubt that plaster was objectionable, when there were very large plain surfaces to be covered with it, but he believed the proportions of the room had still more to do with this matter. He believed that similarity in the height and width of a room was the greatest obstruction, by way of echo, to the sound of a building; means, therefore, ought to be taken always to avoid those special proportions. He had made observations in various places, and he was most struck with the sound of two public rooms at Stockholm, the one being exceedingly good for sound, and the other excessively bad. The one that was bad for sound had nearly the same proportions for height and breadth. The worst place he had ever been in for sound was a school at Reading, some time ago, where there were two rooms of equal dimensions and equally bad for sound, being cubes of 25 ft. each. If it was desired to deaden the sound, a carpet or something of the sort on the floor was good, but if they had a room in which the proportions were favourable for sound, they could not have anything better than hard wood pavement or a concrete floor. He knew that many organ builders held that this was the best position for an organ.

Mr. Charles Fowler remarked that he had learned something practical the other day in the country in the matter of sound, and he was anxious to give his colleagues the benefit of it. In the case of a country church, which had been restored, seating from 300 to 400 people, amongst other improvements the whole of the seats were paved with wood blocks, but the rector informed him that he was astonished at the greater difficulty he had now in preaching than when he had the old boarded pews.

Mr. H. W. Burrows remarked that it had been incidentally mentioned that the London County Council chamber was lighted from the cove, and, therefore, practically from the top. A very large number of the provincial chambers were lighted in the same way, but others were lighted from the side. He would like to ask Mr. Blashill his opinion as to the best mode of lighting—whether he considered it better to light entirely from the top?

Mr. Woodward said that Mr. Brydon had referred to the use of columns for architectural effect. He apprehended that the position of those columns would be close to the wall, because nothing could be more fatal in a Council-chamber or any such hall, as ordinary columns.

Mr. Brydon: Of course, they were close to the wall.

Mr. Woodward said that Mr. Knightly, a Fellow of that Institute, had built in Langham Place certainly one of the finest halls in London, and perhaps in England. It would be well, therefore, if they could get Mr. Knightly to come and give them a paper dealing with the hall.

Mr. Hutton (Chairman of the London County Council) said there was no doubt that the exercise of Mr. Blashill's ingenuity had been limited to a large extent by the conditions of the case. The result, however, was that they were blest with a Council Chamber, where, if the members were moderately quiet, there was no difficulty in hearing what was said. He did not know if any more tangible compliment could be paid to Mr. Blashill than that expressed by the members of the Council on their return to Spring Gardens from the Guildhall, where they were accommodated during the re-building of the Council Chamber. Everyone then said what an immense improvement it was on the Guildhall Chamber, and that they could hear with much greater facility.

Professor Kerr asked Mr. Blashill how a deputation was received in the County Council Chamber?

Mr. Blashill replied that they were not received there at all. The practice was to receive deputations in committee.

Professor Kerr said that that emphasised what had been passing in his mind, viz., that this council chamber was a peculiar one, though it was admirably planned for the very purpose which Mr. Blashill had described, viz., that the discussions should be short and sharp, very much to the point, quite uninterrupted, and touching only upon that which had been exhausted elsewhere as regards investigation. It struck him that in most council chambers where deputations from without had to be received, it would be important that the model of the House of Commons should be to some degree imitated, so that the public might have a right of access at one end of the chamber. With regard to the cutting up of the wall by architectural decorations, it was quite well understood that this was an excellent way of rendering a chamber better for hearing. With regard to lighting, ordinary windows in the wall were not to be thought of in a large chamber like this, and it seemed to him that the coved windows were the best. A lantern light in the middle was a bad plan for lighting such a chamber. He had in his mind a police-court, where nobody could hear what was going on except by special instinct, and where the magistrate was continually reprimanding people for the slightest sound they made. The reason was that the room was lit by a long square lantern, glazed all round, but it ought to have a vellarium underneath, as at the Albert Hall, to keep the sound down within hearing distance. He wondered if he would be out of order there in referring to the Law Courts, which were very unsatisfactory, both as regards lighting and hearing. In respects of hearing, it struck him that the reason was the extreme height. It was certainly not at all advisable to have a discussion chamber too high. With regard to their own room, which had been quoted continually as a model of acoustic excellence, the dome was created for the purpose of ventilation, but in that respect it had been rather a failure. If, however, it served the other good purpose of promoting the acoustic principles of the room, it was a compensation on the part of nature for which they ought to be thankful. With regard to Mr. Woodward's suggestion, he had no doubt that Mr. Knightley would be most willing to read a paper on the Queen's Hall.

The President said that the subject brought before them that evening was a very important one. County Councils were springing up all over the country and would require homes. It was, therefore, of the utmost advantage for them, as practising architects, to deal with the results of the experience of such a man as Mr. Blashill. So far as he could judge by the description given, the hall of the London County Council appeared to be a success in many, if not in all, respects. It was satisfactory to gather this opinion from what Mr. Blashill himself had stated, and it was still more satisfactory to be assured of the fact by the Chairman of the Council himself. The problem of accommodating a large number of people in one room, so that every one could see and hear distinctly, was a very difficult one. Many suggestions had been made by way of obviating this, but there was one which he would venture to suggest which had not been made, and it was that, in place of altering the rooms, they should reduce the number of the members. The question of acoustics was also a very important one, and had been touched on by several speakers. In his experience the worst room in London to speak in was the Egyptian Hall at the Mansion House, while the best hall, he believed, in London for acoustic purposes was the Queen's Hall in Langham-place. He had had occasion to gather some experience on the construction of this hall, and he had learned the principles on which it had been designed in regard to acoustics. Taking the plan of the hall, in place of being designed in a circular form, the curves of the orchestra were reversed, or made aggressive and not receding, while instead of the cove in the ceiling being concave, it was curved in an opposite direction. That he believed to be the principle which had produced such successful results.

The vote of thanks was then put and carried by acclamation.

Mr. Blashill, in replying, said that it was true he intended to open the general question of council chambers, and he had hoped that something might be said upon matters with which he could not deal. Much had been said about the seating of the Press, and about their being placed on the floor of the chamber. This might do very well in smaller county chambers, where there were only two or three reporters, but it should be remembered that there were three dozen in Spring-gardens, which entailed a rather different arrangement. They had heard something about the proportions of a council chamber, but he had no hesitation in saying that he had never heard any one who could tell him, in feet, and if necessary in inches, what the proportions should be. With respect to sound, if there was complete silence and a well-arranged room, no one need speak more loudly than he was speaking at that moment. There were all kinds of fancies about

sound. In the case of the new Opera House at Vienna, where a couple of architects were employed, at the opening performance the Press and a certain portion of the public were unanimous in saying that, although the building was a fine one, the sound was bad; yet, after a few more performances, everyone came to the opinion that it was one of the best places for sound in Europe. With regard to lighting, he thought the cove-light was the best, while a large lantern-light was a great mistake and spoilt the sound. They had no trouble whatever with the doors. They used a quiet spring such as that of Adams or other makers, which allowed a door to close within a couple of inches, and then it took its time to finish the closing.

The President said he did not quite agree with the criticisms of Professor Kerr as to the ventilation of the room. Those who remembered the room as it was must in fairness concede that it was very much better than before, though without motive power for ventilation it was impossible to have a perfect system. He had to announce that the next meeting of the Institute would be held on April 23, when papers on "Furniture—Domestic and Ecclesiastical," would be read by Mr. John Belcher, Mr. C. F. A. Voysey, Mr. Aldam Heaton, and Mr. W. D. Caröe, under the management of the Art Standing Committee.

The proceedings then terminated.

MAGAZINES AND REVIEWS.*

THE *Art Journal* gives an article by Mr. Pennell, "On the River," accompanied by sketches on the Thames (the tidal portion) in which the craft and the general effect are better treated than the architecture; Waterloo Bridge, for instance, is done great injustice to. Mr. J. M. O'Fallon contributes an article on "The Work of Birmingham Jewellers," a description of processes in which mechanical treatment seems to play a very large part, as indeed the writer implies. Mr. Lewis F. Day contributes a paper on "Early Italian Art" in reference to the recent exhibition at the New Gallery, and Professor Baldwin Brown a note on "A new piece of Scottish architecture," the M'Ewan Hall, Edinburgh, by Dr. Rowand Anderson, of which he speaks in terms of high praise.

In the *Magazine of Art* we have a largely-illustrated article by Mr. Lionel Cust on "The Malcolm drawings at the British Museum," and Mr. Claude Phillips continues his articles on Early Italian Art at the New Gallery, illustrated by some excellent small engravings from what was by far the most interesting part of the collection, the decorative work and jewellery. The first part of an article on Roubiliac and his work is contributed by Mr. Austin Dobson.

The *Studio* is a repertory of various and interesting designs, sometimes eccentric, always clever. The *Studio* has been offering prizes for designs for pianoforte cases (uprights), which has resulted in some pretty designs of very good architectural quality, but the device of advancing side-pieces, the whole height of the instrument, closing in the keyboard at each end, which one competitor has adopted, will never do. A pianist likes free space at each side of him; elbow-room. The number contains articles on "Repoussé Metal-Work," by Mr. Nelson Dawson, "On Old Keys," by Mr. Aymer Vallance, with illustrations of some charming examples, and on "English Embroidered Book-Covers," by Mr. Cyril Davenport.

In the *Nineteenth Century* Lady Cowper writes a criticism on "The Realism of To-day" in art and literature. She observes that there are two schools of realism, the true and the false; the one the genuine acceptance and exposition of what is actual and true in nature, which depicts both beauties and defects, and is not blind to either. The fictitious realism recognises only one view of the object, in which either the redeeming side of what is ugly is left out, or the weak side of what is noble and beautiful is omitted. The modern Realists have adopted this one-sided view, and with them realism has become the synonym for ugliness. The split among the artists of the French camp, Lady Cowper considers, has resulted in the collection of the false realism in the Champ de Mars Salon, to the average productions of which the works of Millet and Jules Breton must be a constant rebuke. The argument is pursued, and some further comparisons instituted, with a great deal of insight and critical judgment.

The *Contemporary* contains an important article by Professor Müller on the excavations which have recently been carried on at Sendschirli, in northern Assyria.

The *Fortnightly Review* contains what may be called a remarkable article by Mr. Frederic Harrison, on "Constantinople as an Historic City"; remarkable both for its admirable literary style and for the broad and comprehensive view which it gives of the history of that city. Mrs. J. E. H. Gordon contributes an article on "Women as Students in Design," which is in reality a recommendation of Princess Christian's scheme, propounded at a public meeting a little while ago, and already mentioned in our columns, for founding a school of design for women.

The *Century* contains an article on "Millet's Life at Barbizon," described by his brother. A short note on Hobbema by Mr. T. Cole is accompanied by an engraving of his well-known picture of "The Avenue" in the National Gallery, which the writer justly regards as one of the finest and most typical of the painter's works. "My first and last balloon ascent," by Mr. R. V. V. Sewell, "A Comet-finder," a description of the telescope at the Red House Observatory, Phelps, New York, and of some of its discoveries, by Mr. F. W. Mack; and "A Summer month in a Welsh village" (Bethgelert), by Mrs. S. N. Carter, are among the contents of a very interesting number.

Scribner's Magazine contains an article on divers' work ("Life under Water") by a practical diver, which is of some interest as giving an insight into the conditions under which this particular industry is carried on, and which are naturally quite unknown to most of us. The same number contains an illustrated article on "French Caricature of To-day," apparently written by a Frenchman and translated.

In *Harper's Magazine* the article entitled "A Battleship in Action," by Lieut. Staunton of the U.S. Navy, is apparently intended as a glimpse at the future of naval warfare, in the same spirit as the remarkable article, "In a Conning Tower," which appeared in an English periodical (we forget which) some years ago. It is very well done, and worth general attention as a sinister prediction of what we are coming to. Mr. Abbey's illustrations to "Winter's Tale" are interesting as new attempts, but more successful in grouping and design than in the character of the separate figures; his "Autolycus" is a wretched failure.

In the *English Illustrated* is an article on "The marble-workers of Carrara," with illustrations of the Carrara quarries and their working by Miss Helen Zimmern.

Among the contents of the *Gentleman's Magazine* we find an article on "Jupiter and its system," with notes on the discoveries of the satellites, by Mr. J. Ellard Gore; "Old Westminster," a historical and topographical article by Miss May L. Sinclair; and a sketch of the "History of the Post Office," by Mr. J. A. J. Housden.

In the *Cornhill* an article on "Dress" reviews the often repeated but futile attacks on women's costumes as contrary to physiological laws, the writer remarking truly that "the inhuman outlines of the female figure shown in dressmakers' pictorial advertisements reveal an ignoring of vertebrate anatomy and a defiance of physiological demands which would move the Society for the Prevention of Cruelty to Animals if detected in the treatment of a colt, a lap-dog, or a costermonger's ass." We may add that in this respect the English fashion books are twice as bad as the French, which preserve some semblance of the possible appearance and proportions of the human figure even in tightly-pinched dresses, while the English drawings are absolutely impossible caricatures, which one might think were calculated rather to alarm than to attract those for whose eyes they are specially intended. From internal evidence, the *Cornhill* article is apparently not written by a woman. In speaking of man's dress, the writer remarks on the instinct with which we seek for comfortable and loose-fitting clothes when about to perform work which requires either bodily or mental strain. It is only when idling that we can sacrifice to the absurdities of fashion.

Blackwood's Magazine contains an article on "A Lost English City," namely Dunwich, now represented by a small coast village with one church, the rest of the old town having been by slow degrees invaded and swallowed up by the sea. The extent of the ravage may be estimated by the fact that at one time Dunwich counted fifty-two churches, of which not a vestige is left except the one just referred to.

In *Longman's Magazine* Mr. W. Schooling devotes what may be called a "popular scientific" article to "The Pleiades," and marshals a few facts which are striking enough; among others that this garland of stars, to which poets of all time have devoted pretty epithets, is an assemblage of worlds amid which our whole solar system would be an insignificant item, light taking seven and a-half hours to cross the limits of Neptune's orbit, while it would take seven years to cross from one extreme of the Pleiades to another. Such are the changes in our ideas of the relative proportion of things which advancing time has brought about.

In the *Reliquary* Mr. C. C. Hodge's article on "The Pre-Conquest Churches of Northumbria" is continued; among other articles are "The Roman Road through East Cleveland" by Canon Atkinson; and "Notes on the Cathedral Churches of Sweden" by Mr. T. M. Fallon.

Pictures from Punch is a very good issue, including some famous drawings of long ago which every one will remember and be glad to meet again.

* The object of these notes is to point out anything in the contents of the current magazines which is of special interest to our readers, with occasional brief criticisms on the views expressed in such articles. When a magazine which has been sent to us is not noticed, it is because that number contains nothing that it is within our province to comment upon.

ASSOCIATION OF MUNICIPAL AND COUNTY ENGINEERS.

A HOME Counties District Meeting of the Association of Municipal and County Engineers was held in the Town Hall, Reading, on Saturday. Mr. J. T. Eayrs, C.E., of West Bromwich, President of the Association, presided, and the attendance, including a strong contingent of Metropolitan members, was one of the largest in the annals of the Association.

The members were received in the Town Hall by the Mayor (Councillor Field) and several members of the Town Council. In offering the members of the Association a cordial welcome the Mayor said that Reading was in a very fairly prosperous condition, and in municipal matters not far behind the times. The visit would be instructive to Reading, and he hoped not lacking in benefit to the members of the Association.

The President, in acknowledgment, said it was of great interest to municipal engineers in visiting the various towns throughout the kingdom to see the progress made in municipal engineering. Wherever municipal engineers went they saw something to interest, some information to gather, and he hoped did not go away without leaving some information behind. The interchange of ideas at their meetings tended to the improvement of the towns they represented.

On the proposition of Mr. C. Jones (Ealing), seconded by Mr. T. de Courcy Meade (Hornsey), Mr. A. Claude Robinson (Willesden) was re-elected *pro tem.* honorary secretary for the Home Counties District. Mr. Robinson, in acknowledgment of the proposition, which was unanimously adopted, said it was with regret he felt compelled to retire.

Mr. A. E. Collins, A.M.Inst.C.E., Borough Engineer, Reading, read a paper on machinery as applied to the breaking up of macadam. He said that of machines now in use in England the best known were the following:—Rutly's Road Scarifier, patented 1884; Voysey & Hosack's apparatus for breaking up streets, 1890; Jackson's Road Scarifier, March, 1891; Wallis's machine for breaking the surface of roads, November, 1891; Henderson's machine for breaking up Macadam, November, 1891. Messrs. John Fowler & Company had recently made a machine, which was being tested before being placed on the market. The Syracuse Chilled Plough Company, New York, make a Macadam plough which is drawn by horses. Having given details of the construction of the various machines, Mr. Collins said that with regard to general results arising from the use of suitable machines his experience had proved that such work could be done much more thoroughly and quickly than by manual labour at a cost which had not amounted in the average to more than half that of manual work. With the scarifiers, including Henderson's machine, stones, chips, &c., were not projected through the air at all; with Voysey's & Hosack's machine stones were not projected more than 2 or 3 ft., and not in such a manner as to cause inconvenience or danger; with the Wallis road pick all the stones projected were at once stopped by the padded casing which encloses the apparatus. Consequently, it could be seen that one of the great inconveniences and dangers constantly arising when hand-picking was being

done was avoided by the use of either of the machines described. By the aid of a machine work could be carried on at night-time as well as by day, only ordinary hand lanterns being required to show the depth of cut, &c. In refacing rough roads which had sufficient, or nearly sufficient, metal upon them, a road-breaking machine was most valuable. In most towns it was not possible to obtain sufficient men experienced in road-picking to break up a road at a rate approaching the speed of machine work.

The various types of scarifiers were subsequently seen at work on a trial length of road, and the representatives of the various firms interested were permitted to give additional details as to their machines. The most important statements made were by Mr. Collins, the author, from particulars supplied by Mr. T. de Courcy Mead, that the machine of the Hornsey Local Board had scarified 26,000 yards at a cost of ½d. per yard; by Messrs. Wallis and Steevens that in a trial at Millbrook 733 yards were broken up at a cost of 9s. 6d., which works out at 6½ yards for 1d., or, after allowance for depreciation, at 5⅝ yards; and by Mr. Evershed that he would be willing to undertake work at ¼d. a yard.

Mr. Low (Hampstead), in moving a vote of thanks, said that Local Boards would be glad to know that five yards of road could be broken up for a penny, as they had been paying, on contract, a penny a yard. The labour question was, however, so important, that the question of superseding hand by machine labour was a very difficult one for surveyors to deal with.

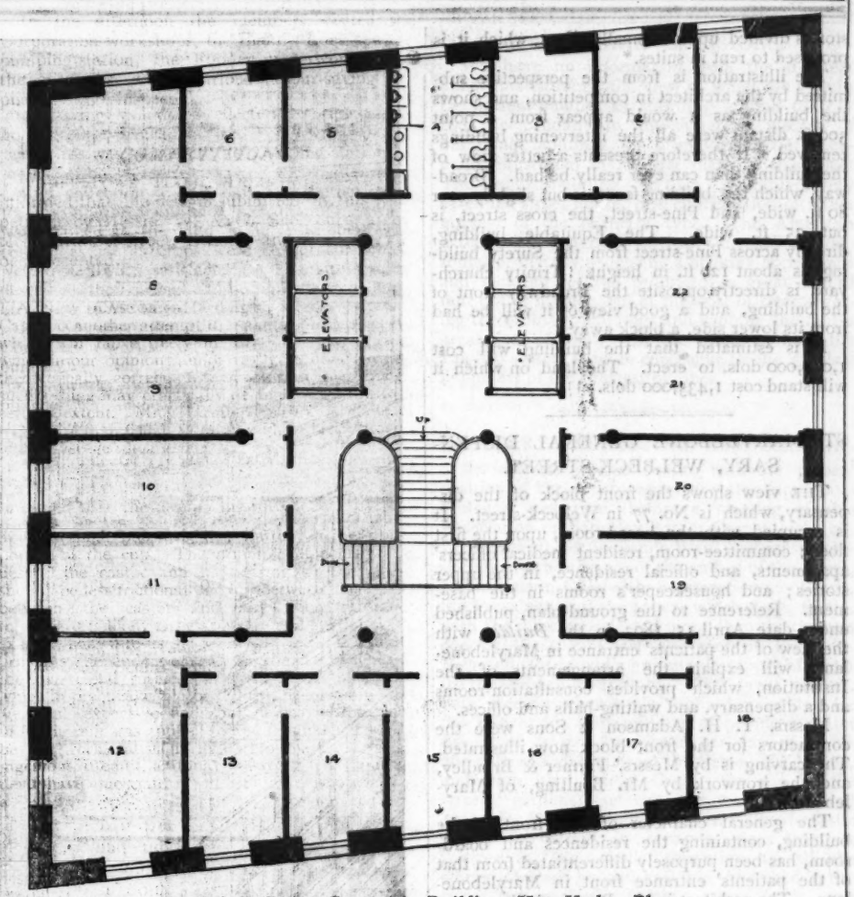
Mr. Weaver (Kensington), who seconded, remarked that while, if he were a County Surveyor, he would adopt one of the machines, he should not think of doing so in the metropolitan district, where there are so many plug-boxes, electric light covers, and other obstructions in the roads.

After a discussion the vote of thanks was adopted.

Mr. A. T. Walker, Assoc. Mec. Inst. C.E., Waterworks Manager, read a paper entitled "Recent extension of Reading Waterworks and the use of Polarite therein." He spoke highly of the success which had attended the use of polarite at Reading as a filtering medium.

Mr. A. E. Collins next read a paper on "Some Municipal Works in Reading." He said the population was 63,000, and the rateable value 290,000*l.* The population had nearly doubled in twenty years, owing principally to the large increase of many of its industries. The most important municipal work carried out had been the purchase and preparation of the sewage farm and the construction of the sewerage system and sewage pumping station. The works had cost about 350,000*l.* Sewage was first pumped to the farm about twenty years ago; it had received the sewage of the borough since then. The town was drained on the separate system. Each street had two distinct systems of sewers, one for sewage, one for surface water; likewise each house had two systems of drains. As a result ordinary rainfall had no appreciable effect on the flow of sewage to the sewage pumping station. The average quantity pumped was about 1,500,000 gallons per day. In December last he recommended that experimental trials be made to show whether domestic refuse could profitably be burnt in the furnaces of the three Lancashire boilers supplying the pumping-engines. Temporary forced blast fittings were made at the pumping-station and fitted to the boiler furnaces. During the past three months the engines had been driven by steam raised from the combustion of unprepared house refuse only. The amount of refuse consumed averaged about 18 tons per day. It required two boilers heavily fired with refuse to produce as much steam as one boiler lightly fired with medium quality steam coal. Not the slightest nuisance had been experienced. With regard to the financial aspect, in Reading all the sewage could be pumped by water during about nine months in the year; during that time only a small quantity of cheap refuse coke was burnt to keep the boilers hot and maintain draught in chimney for the purpose of maintaining the ventilation of the outfall trunk sewer; consequently it would be seen that a large saving in cost of fuel could not be effected. On the other hand, the handling of large amounts of house refuse and clinker necessitated considerable cost in labour. As a result he found the cost of running the sewage pumping machinery would be increased by about 145*l.* per annum by running the steam machinery throughout the year, using house refuse as fuel. During such periods as water-power was not available, and steam must be used, a saving of 10*l.* per week was effected, showing that, were water-power not available, a large saving would be effected by the use of house refuse instead of coal. Notwithstanding that a loss was made at the pumping-station by the use of house refuse, a saving was made in the cost of collection and disposal, and the net result was a saving of about 320*l.* per annum. Sewage was applied to the land in its raw state with results, as far as crops were concerned, which were not always satisfactory. The author also described the various public offices and works belonging to the town.

In the afternoon the members visited the Corporation workshops, the Blake's Lock sewage pumping-station, the Fobney waterworks, and the gasworks, where various labour-saving appliances were inspected.



American Surety Company's Building, New York.—Plan.

COMPETITIONS.

ODDFELLOWS HALL, DORKING.—We are informed that the design submitted in this competition by Messrs. W. & G. Shearburn, architects, Arundel-street, Strand, and Dorking, has been accepted.

A NEW CASTOR.—Harding's patent "Globe" Castor is another attempt to make a spherical castor which will move freely in any direction, a thing which in our opinion cannot really be done on any theorectically correct mechanical principle, though such a thing may practically be made to work to a certain extent. Mr. Harding's castor is made of larger size than usual, forming a globe proportioned to the average thickness of the leg of the furniture, and is made of a thin hollow shell of hard and highly-polished metal working in an inverted cup of a section of a little more than a hemisphere, so as to keep the castor in its place. The castor bears upon a small polished steel button in the upper portion of the cup. The principle of course is to design the castor and its bearing so that there should be less frictional binding between them than between the castor and any floor substance to which it is likely to be applied, and no doubt the example shown to us did work so; but it is a faulty principle, dependent entirely on the maintenance of the two metal surfaces in a high state of polish, which in practice would be difficult to maintain, and we should expect to find that the heavier the piece of furniture it was applied to the less likely it would be to work satisfactorily. However, it is an ingenious attempt, and may be worth trial; but we never have much faith in the future development of a mechanism which is not perfect in principle.

Illustrations.

BUILDING FOR THE AMERICAN SURETY COMPANY, NEW YORK.

THE new building projected by the American Surety Company, New York, promises to be one of the most interesting in that city. The design submitted by Mr. Bruce Price has been chosen for erection, that being judged the best out of nine submitted by nine of the leading architects in New York in a limited competition. Mr. Richard Morris Hunt was the professional adviser of the company, and each architect was paid 750 dols. for his drawing.

The conditions were somewhat novel. The site is approximately 85 ft. by 85 ft., though not quite square. For this plans were required for a building from fifteen to twenty stories high. Most of the competitors submitted designs for a twenty-story building, and Mr. Price, whose twenty-story design was accepted, submitted an alternative for a building of twenty-seven stories. The proposed building, having a height of 300 ft., naturally takes the form of a tower, and negotiations are in progress whereby the company hope to secure control of the adjoining premises, which extend around their own lot, and which it is known will not be built upon for many years to come, thus justifying them in continuing the design of the main façades around the four sides of the building. As the best views of this structure will be obtained from the waters of New York harbour, the architect will have an unusual opportunity of erecting a business building of monumental character that may be seen from all points. This action is somewhat significant, since most of the high office buildings in New York are designed with reference to their street façades only, and present nothing but huge unbroken walls of brick to the water fronts.

The building is to be built of white granite. The main entrance, on Broadway, is through a semi-circular apse immediately behind the Ionic porch. The first-floor will be fitted up for banks, which will have direct connexion with safety vaults in the basement. The second-floor will be fitted up for a large corporation, the third, fourth, and fifth for the uses of the American Surety Company itself, and the remainder of the building for offices, chiefly for lawyers. The annexed typical floor plan shows one of these

stories divided up into small offices, which it is proposed to rent in suites.*

The illustration is from the perspective submitted by the architect in competition, and shows the building as it would appear from a point 300 ft. distant were all the intervening buildings removed. It therefore presents a better view of the building than can ever really be had. Broadway, which the building faces, is but slightly over 80 ft. wide, and Pine-street, the cross street, is but 35 ft. wide. The Equitable building, directly across Pine-street from the Surety building, is about 120 ft. in height. Trinity churchyard is directly opposite the Broadway front of the building, and a good view of it will be had from its lower side, a block away.

It is estimated that the building will cost 1,000,000 dols. to erect. The land on which it will stand cost 1,435,000 dols.

ST. MARYLEBONE GENERAL DISPENSARY, WELBECK-STREET.

THE view shows the front block of the dispensary, which is No. 77 in Welbeck-street. It is occupied with the board-room, upon the first floor; committee-room, resident medical officers' apartments, and official residence, in the upper stories; and housekeeper's rooms in the basement. Reference to the ground-plan, published under date April 15, 1893, in the *Builder*, with the view of the patients' entrance in Marylebone-lane, will explain the arrangements of the Institution, which provides consultation-rooms and a dispensary, and waiting-halls and offices.

Messrs. T. H. Adamson & Sons were the contractors for the front block now illustrated. The carving is by Messrs. Farmer & Brindley, and the ironwork by Mr. Boulting, of Marylebone.

The general character of this front of the building, containing the residences and board-room, has been purposely differentiated from that of the patients' entrance front in Marylebone-lane. The architect is Mr. Beresford Pite.

METROPOLITAN LIFE ASSURANCE SOCIETY.

THE illustration is of the principal entrance to the building in Moorgate-street which has recently been erected by the Metropolitan Life Assurance Society. The building has been built in two blocks, the society occupying the basement, ground, and first floors of the larger block, the remainder being arranged for letting in blocks of offices. The basement of the society's portion is mainly occupied by extensive strong rooms fitted in the most secure manner by Messrs. Chubb & Co. On the ground floor is the main office, the actuary and the assistant actuary's rooms, and a committee room. On the first floor a board-room, doctor's and dressing rooms, waiting-room, and director's luncheon-room. A double staircase leads by the one flight from the ground floor office to the board-room, and by another flight to the offices over the society's portion which are entered from Coleman-street, a great deal of valuable space being saved on the ground floor by this arrangement. The walls of the ground floor are panelled to a height of about 10 ft. in Spanish mahogany, with a lining of cipolline marble above. The board-room is also partly panelled with Spanish mahogany. The desks, screens, fireplaces, and other fittings are all in a similar material, and especially designed by the architects. Portland-stone is used throughout the fronts, with a polished base of Cornish granite. The electric light is fitted throughout.

The contractors were Messrs. Cubitt & Co. The architectural sculpture is by Mr. W. S. Frith; the sanitary work by Messrs. Dent & Hellyer, the electric lighting by Messrs. Strode & Co. The whole was designed by Mr. Aston Webb and Mr. E. Ingress Bell, and their clerk of works was Mr. T. Warburton.

S. PETRONIO, BOLOGNA.

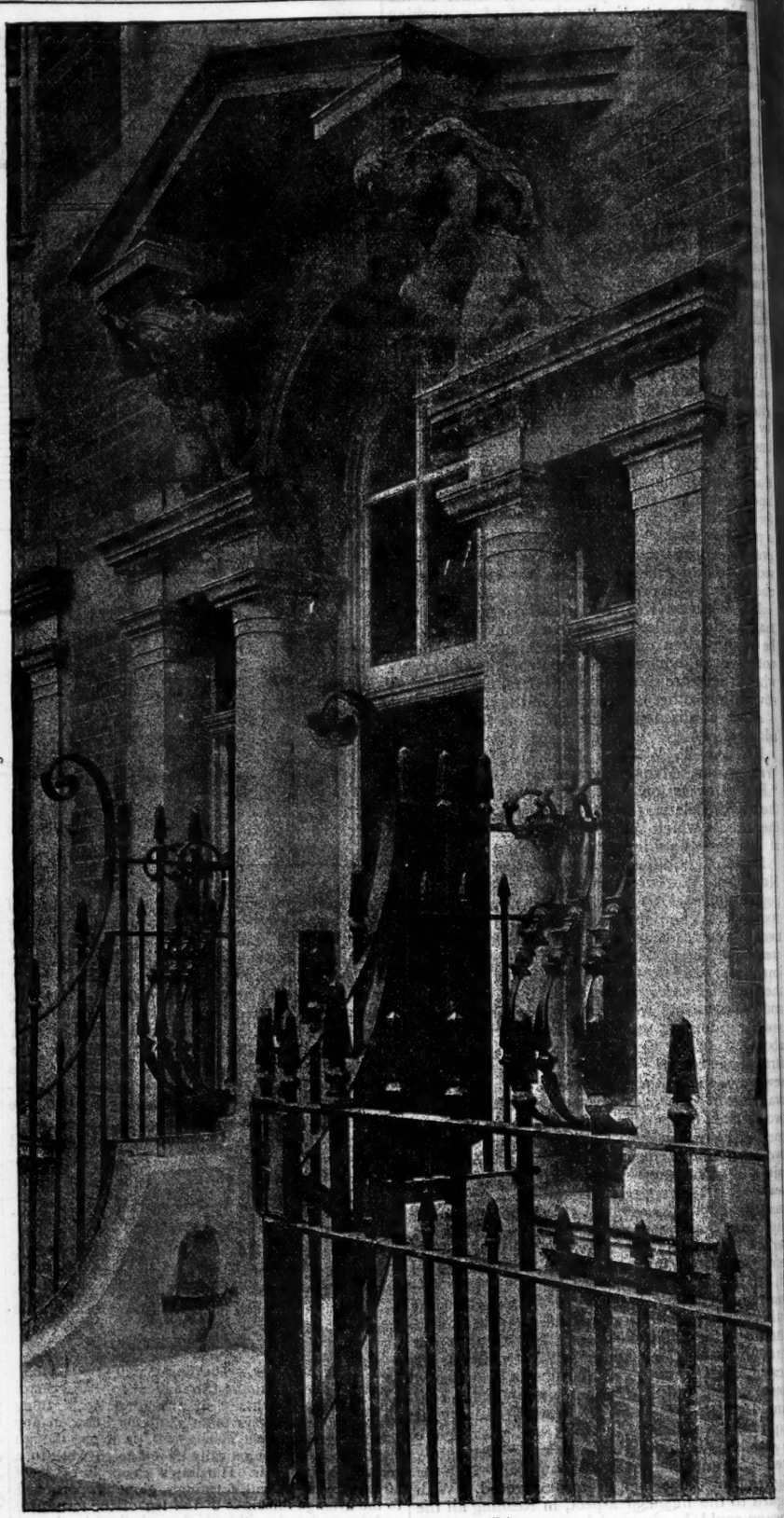
THE church of S. Petronio, as we see it to-day, is only the first portion of a vast project by which the Bolognese were to have the largest church in Italy.

Siena and many other towns had striven for centuries for the same honour, but misfortunes had fallen upon them, and Bologna, too, found its ambition unrealisable.

The church, commenced in 1390, by Antonio Vincenzi, if completed, would have been 600 ft. in length, with transepts, and a dome over the crossing. The present church is only the nave of this scheme, and owing to its great width and the enormous span of its arches, it has a vastness unsurpassed, perhaps, by any church in Italy. This nave measures 384 ft. in length, and, with the chapels, 156 ft. in width. Many designs were made by the architects of the Renaissance for the completion of the façade, amongst whom may be mentioned Palladio, Vignola, and Giulio Romano, but it still remains unfinished. The chapels contain many frescoes and other works, and are divided from the aisles by beautiful screens of marble.

Though the interior of S. Petronio has no special claim to beauty of detail, though its walls are bare and cold, still there is something extremely picturesque in its great level floor, dying away unbrokenly until it loses itself in mystery.

FRANCIS W. BEDFORD.



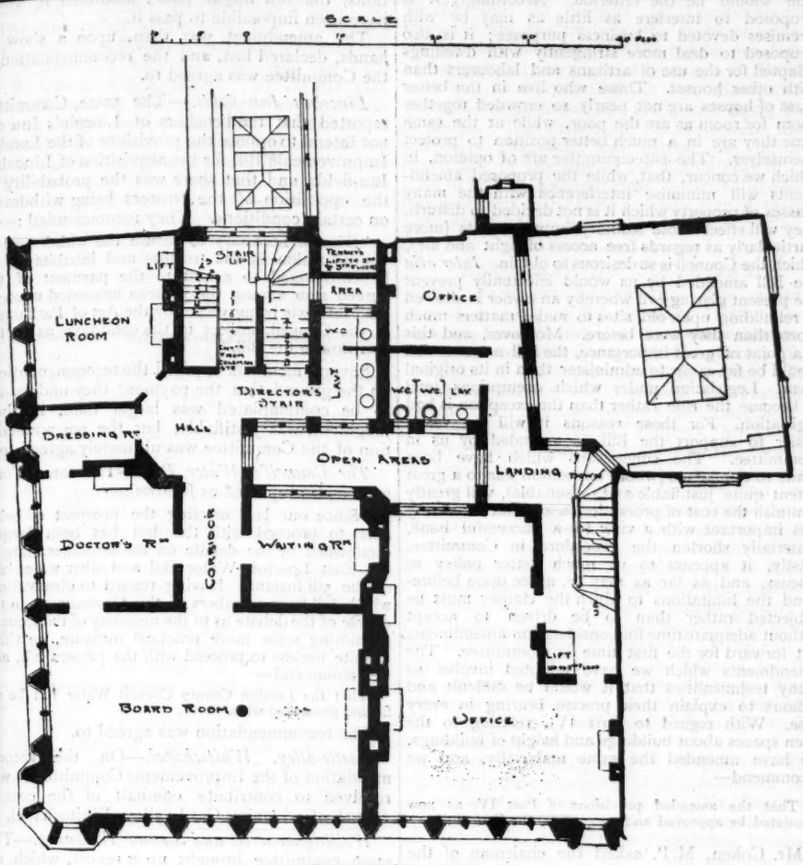
Doorway, St. Marylebone General Dispensary.

PALAZZO DELLA CASA, GENOA.

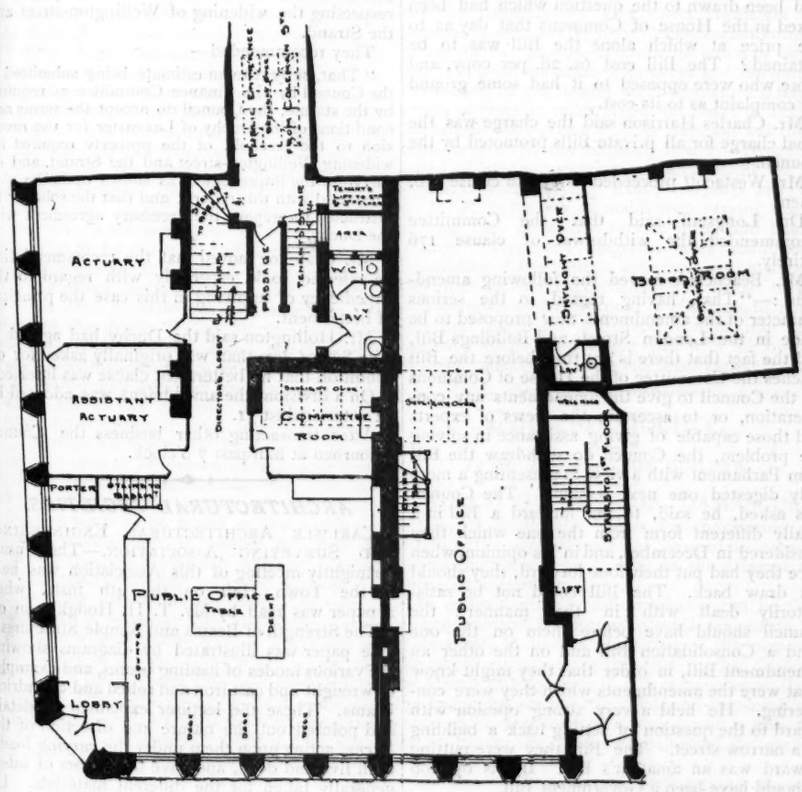
THIS quiet, fifteenth-century, unpalatial "palazzo" occupies a prominent site facing the Piazza Fontane Morose.

The materials with which it is built, and the restraint shown in its design by the square, unbroken outline and façade, constitute its chief

* For the omission of any scale to the plan we are not responsible. It was sent to us from New York without a scale, which we have of course no data for supplying.



FIRST FLOOR PLAN.



GROUND PLAN.

Metropolitan Life Assurance Offices.

charms. Almost the only enrichment is concentrated on the second floor, where the cusped corbel course and the balconies below and niches with statuettes between the windows are used with admirable discrimination and effect.

Further effect is given to the front by the courses of variously-coloured materials. The ground stage up to the first string-course is of black or dark grey marble, with inserted carved panels in white marble, and white marble jambs to doorways. The other three stages are built in alternate courses of black and white or cream-coloured marble, with black or dove marble string-courses. The balustraded balconies are of white marble, and the corbelled string-course between is of black, with white marble top and bottom members. The niches and figures are of white marble, as is also the main cornice. The window jalousies, &c., are painted green, and the roof is covered with red pantiles, all mellowed by time.

T. ROGERS KITSELL.

HYDE PARK MANSIONS.

WE have no information from the architect about this building, the view of which we give in the present number as affording a kind of contrast or pendant to the American manner of designing buildings for a multiplicity of occupants, illustrated in another plate in this issue. The English building "in flats" is simply a very extended street house, or a continuation of street houses, of the ordinary type. The American extends his building vertically instead of horizontally, thereby producing a striking appearance and securing for the proprietor a great deal of rent out of his site, but at the cost of overpowering the ordinary buildings and robbing them of a great deal of light. On the whole perhaps the English system is more conducive to the greatest happiness of the greatest number.

SANITARY INSPECTORS' ASSOCIATION.

AN interesting paper dealing with the present position of Paris with regard to water supply and drainage was read before a meeting of this Association on Saturday last, at Carpenters' Hall, London Wall, Sir Benjamin Ward Richardson presiding. In the absence of the author of the paper, M. Bechmann, Chief of the Sanitary Service of Paris, the President read the paper, which dealt, firstly, with the scheme projected more than thirty years ago by the then Chief Engineer of Paris, M. Belgrand, for providing an ample supply of water to the French metropolis. This great project, only recently completely realised, provides for the two and a half millions of people a water supply of 44 gals. per head per day, of which 26½ gals. are drawn from the Seine, the Marne, and from the Ourcq Canal, for use in the streets, gardens, factories and workshops, and 17½ gals. for household purposes. The domestic supply is carried in separate pipes from its sources in the chalk formation to all the stories of Paris houses, and it is described in the paper as perfectly bright, pure, fresh, and palatable. Both systems of pipes are under constant pressure, the water delivered to the houses being measured by some 65,000 water-meters. An additional twenty-two litres of pure spring water can be supplied even in the heat of summer, should it be required, and the public supply can be increased by nearly 50 per cent. on any emergency. In short, it is claimed that the drinking water of Paris is quite as good as that of Vienna, long esteemed the best in Europe, and is much beyond all present wants. Of the drainage system of Paris, M. Bechmann has not so good an account to render. Out of the 1,400 kilomètres of streets in Paris, one-seventh are still without any drain, and covered cesspools remain in the greater number of private dwellings. Three-fourths of the total sewage of Paris is discharged into the Seine near the Pont d'Asnières, close to walls of the city. The remaining fourth of the sewage is treated at Gennevilliers, in irrigation fields. The Parisians, proud of the magnificent subways which had been established in one half of Paris, at the death of M. Belgrand in 1878 and heedless of the efforts of enlightened engineers like the late Messrs. Alphand and Durand-Claye have remained satisfied, until recently, to retain 64,000 cesspools, 17,000 ordinary pails, and 34,000 dividing pails. There is now at last a prospect of the full realisation of the great schemes of the departed engineers, although an eventual expenditure of 143,000,000 of francs, or 5,720,000*l.* sterling, has to be faced. The works actually in progress involve an expenditure of over 2,000,000*l.* on new sewers and the improvement of old ones, and upon a new irrigation field at Achères costing 368,000*l.*, which is expected to be in full working operation next spring. Within five years, when the new works contemplated by a Bill suggested and supported by the State authorities will be completed, it is the opinion of M. Bechmann that the Seine will no longer be polluted by Parisian sewage, except perhaps at the time of the very rare storm overflows, and within ten years the sanitation of Paris will be very nearly perfect. The new law, of which Paris is in daily expectancy, will mark a new era for the French metropolis, where a perfect system of drainage, added to the already excellent water supply, must have the happiest influence upon public health and the bills of mortality. A vote of thanks having been given by acclamation to M. Bechmann, the meeting discussed the procedure to be followed at the forthcoming annual conference of the Association, proposed to be held at Nottingham on the 11th and 12th prox. The first day, Friday, will be

spent in visits to the sanitary works at Eastcroft, the destructor furnace, &c., with a meeting in the evening, followed by a concert. On Saturday, after a reception by the Mayor of Nottingham, Mr. Alderman Pullman, the conference will take place, when addresses will be delivered by Sir W. B. Richardson, Sir Samuel J. Johnson, Town Clerk, and Dr. P. Boobbyer, M.O.H., and after luncheon visits will be paid to the Castle Art Museum, University College, and other places of interest.

THE LONDON COUNTY COUNCIL.

ON Tuusday the first meeting of the London County Council after the Easter recess was held in the County Hall, Spring-gardens, Mr. John Hutton, the Chairman, presiding.

London Streets and Buildings Bill.—The Parliamentary Committee reported as follows in reference to the London Streets and Buildings Bill:—

"A Sub-Committee of this Committee to which the Chairman and some members of the Building Act Committee are acting, have been considering the provisions of this Bill for some time past, and have submitted to us certain amendments which we have fully discussed, and have decided to advise the Council to adopt. We have directed a copy of the amendments to be sent to each member of the Council, but a few words of explanation are required with respect to them. Part IV. of the Bill relating to open spaces about buildings and height of buildings, as originally passed by the Building Act Committee and by the Council, was intentionally drawn in a sweeping form. The provisions were not only more drastic than the Committee thought likely to pass, but in some respects might be considered as going further than the needs of the case demanded. The process of consolidation involved much more re-drafting than had been anticipated, and this process led to yet further stringency in Part I. relating to the formation and widening of streets, and Part II. relating to lines of building frontage. The whole subject is beset with extraordinary difficulties, which centre in the fact that building legislation has to be applied to the most diverse cases, and under greatly-varying circumstances. Building sites differ greatly in size, shape, and situation; buildings are of all sorts and sizes, and adapted to the most varied uses—dwelling-houses, hotels, offices, shops, warehouses, and factories; dwelling-houses again are very differently circumstanced, and the same set of rules are not required for a large house in Mayfair and for a cottage in Rotherhithe, while a block of residential flats requires treatment different from either. The problem was so to strengthen the law as to make it impossible to erect unhealthy dwellings, while at the same time interfering as little as might be with the trade of London, in which all sections are equally interested. After trying various principles of exemption, it was considered that it would be better to wait and see what form opposition to the Bill would take, and then to frame exempting clauses to meet it as far as might appear proper and reasonable, and the Bill adopted by the Council was framed in this sense. Accompanying a general desire for a good Bill to consolidate and amend the present legislation on the subject, there was a yet more general and unyielding opposition to several of the more stringent provisions of the earlier parts of the deposited Bill. We admit the force of the argument, confirmed as it is by the experience of provincial towns, that building regulations, if too stringent, may defeat their own object. While it is most desirable that every new building erected and every addition made to an existing building should be planned and constructed on the most improved principles, it is equally desirable that property owners should not be discouraged from improving old buildings, or hampered in carrying out small additions to or modifications of their property. Rules and restrictions which may be fairly imposed upon owners laying out new streets, or building upon land hitherto uncovered might, and in many cases would, press with undue severity upon the owner of old buildings abutting upon a narrow ancient street. In such a case the obligation to set back or to give up land at the rear might make rebuilding quite impracticable, or at any rate involve such great loss or expense as to be prohibitory. Such a system would accordingly deter owners from making desirable improvements which might be practicable, and cause the retention for long periods of years of old buildings of a most unsatisfactory character. Since the deposit of the Council's Bill our sub-committee have had several long interviews with representatives of various bodies which have been of the greatest assistance to them, and have led to the following results:—(1) A large number of small technical amendments have been made with the full concurrence of all parties. (2) A set of amendments designed to meet as far as possible the main objections to the earlier parts of the Bill have been drawn up. As regards the latter, we and the delegates agree with the Council that to exempt the City of London, as such, from any clauses of the Bill was objectionable in principle. The character of streets and buildings, rather than their geographical position should be the criterion. Accordingly it is proposed to interfere as little as may be with premises devoted to business purposes; it is also proposed to deal more stringently with dwellings adapted for the use of artisans and labourers than with other houses. Those who live in the better class of houses are not nearly so crowded together room for room as are the poor, while at the same time they are in a much better position to protect themselver. The sub-committee are of opinion, in which we concur, that, while the proposed amendments will minimise interference with the many classes of property which it is not decided to disturb, they will effect those sanitary improvements (more particularly as regards free access of light and air), which the Council is so desirous to obtain. *Inter alia* the Bill amended by us would effectually prevent the present glaring evil whereby an owner is allowed in rebuilding upon old sites to make matters much worse than they were before. Moreover, and this is a point of great importance, the Bill as amended would be far easier to administer than in its original form. Legislation under which exemptions tend to become the rule rather than the exception is bad legislation. For these reasons it will be vastly easier to support the Bill as amended by us in Committee. The concessions which have been made to opponents (whose opposition was to a great extent quite justifiable and reasonable), will greatly diminish the cost of promotion, and, what is scarcely less important with a view to a successful issue, materially shorten the procedure in Committee. Lastly, it appears to us much better policy to discuss, and as far as may be, agree upon beforehand the limitations to which the clauses must be subjected rather than to be driven to accept without adequate time for consideration amendments put forward for the first time in Committee. The amendments which we have adopted involve so many technicalities that it would be difficult and tedious to explain their precise bearing in every case. With regard to Part IV., relating to the open spaces about buildings and height of buildings, we have amended the same materially, and we recommend—

'That the amended provisions of Part IV. as now circulated be approved and adopted by the Council.'"

Mr. Cohen, M.P. asked the chairman of the Parliamentary Committee whether his attention had been drawn to the question which had been asked in the House of Commons that day as to the price at which alone the Bill was to be obtained? The Bill cost 6s. 2d. per copy, and those who were opposed to it had some ground for complaint as to its cost.

Mr. Charles Harrison said the charge was the usual charge for all private Bills promoted by the Council.

Mr. Westacott proceeded to refer to clause 176, when,

Dr. Longstaff said that the Committee recommended the withdrawal of clause 176 entirely.

Mr. Beachcroft moved the following amendment:—"That, having regard to the serious character of the amendments now proposed to be made in the London Streets and Buildings Bill, and the fact that there is not time before the Bill reaches the Committee of the House of Commons for the Council to give the amendments any consideration, or to ascertain the views of experts and those capable of giving assistance in solving the problem, the Council do withdraw the Bill from Parliament with a view to presenting a more fully digested one next session." The Council was asked, he said, to put forward a Bill in a totally different form from the one which they considered in December, and in his opinion, when once they had put their foot forward, they should not draw back. The Bill could not be satisfactorily dealt with in that manner; the Council should have before them on the one hand a Consolidation Bill and on the other an Amendment Bill, in order that they might know what were the amendments which they were considering. He held a very strong opinion with regard to the question of setting back a building on a narrow street. The Bill they were putting forward was an amateur's Bill. In his opinion it should have been a Government Bill.

Mr. Campbell seconded the amendment.

Dr. Longstaff said he had been interested in the question for the last five years, but it was only during the last few months that he had realised the whole of its difficulties. It had been said that they should consult experts, but it was almost impossible to get much from that direction. The best plan, and the one which they had adopted, was to place before experts their proposals, and the experts would then say what they thought. This had been done in the case of the Bill they were considering. The Bill had, in reference to certain parts, particularly Part IV., called forth a perfect storm of opposition from those interested, but he thought that, with some necessary modifications, the Bill might pass: unaltered it would have been impossible to pass it.

The amendment was then, upon a show of hands, declared lost, and the recommendation of the Committee was agreed to.

Lincoln's Inn-fields.—The same Committee reported that the benchers of Lincoln's Inn did not intend to oppose the provisions of the London Improvements Bill for the acquisition of Lincoln's Inn-fields, and that there was the probability of the opposition of the trustees being withdrawn on certain conditions. They recommended:—

"That if necessary to secure the withdrawal of the opposition by the trustees and inhabitants, we be empowered to assent to the payment of the agreed sum among the persons interested upon all their interests being vested by the Act of Parliament in the Council, subject to the conditions as to the user now in the Bill."

Several members opposed the recommendations on the ground that the payment they understood to be contemplated was larger than, in their judgment, was justifiable, but the recommendation of the Committee was ultimately agreed to.

The Council's Water Bill.—The same Committee also reported as follows:—

"Since our last meeting the prospect of being able to proceed with this bill has been largely diminished by the debate on the second reading of the East London Water Bill and other water bills on the 5th instant. Having regard to observations which fell from members of the Government in the course of the debate as to the necessity of the Council promoting some more practical measure, we think it quite useless to proceed with the present bill, and we recommend—

'That the London County Council Water Bill be not further proceeded with.'"

The recommendation was agreed to.

Castle-alley, Whitechapel.—On the recommendation of the Improvements Committee it was resolved to contribute one-half of the cost of 2,000*l.* of widening Castle-alley, Whitechapel.

Wellington-street and Strand Widening.—The same committee brought up a report, which we printed in the *Builder* for March 17, page 217, respecting the widening of Wellington-street and the Strand.

They recommended—

"That, subject to an estimate being submitted to the Council by the Finance Committee as required by the statute, the Council do accept the terms and conditions of the Duchy of Lancaster for the reversion to the freehold of the property required for widening Wellington-street and the Strand, and do carry out the improvement as shown upon the plan submitted with this report; and that the solicitor be instructed to prepare the necessary agreement with the Duchy."

Mr. Costelloe moved that the recommendation be referred back, especially with regard to the expediency of applying in this case the principle of betterment.

Mr. Hollington said the Duchy had agreed to take 8,000*l.* less than was originally asked for on condition that no betterment clause was inserted.

On a division, the amendment was adopted by 34 votes against 31.

After transacting other business the Council adjourned at half-past 7 o'clock.

ARCHITECTURAL SOCIETIES.

CARLISLE ARCHITECTURAL, ENGINEERING, AND SURVEYING ASSOCIATION.—The usual fortnightly meeting of this Association was held in the Town Hall on the 4th inst., when a paper was read by Mr. T. H. Hodgkinson on "The Strength of Beams and Simple Structures." The paper was illustrated by diagrams showing the various modes of loading beams, and examples of wrought and cast iron and rolled and cylindrical beams. These the lecturer explained in detail, and pointed out the nature and direction of the forces, acting upon them under the varying loads, both live and dead, and gave the factors of safety generally taken for the different materials. He also gave several useful formulæ for working out the strains at the different points under general conditions, with the constants deduced from the breaking weights of the materials mostly used in the construction of beams, &c. Examples of braced girders, and the construction of crane framings, with the amount of stress on them when loaded and occupying different positions, were also dealt with, and in the course of his remarks the lecturer said that whereas the material turned out by a British firm can generally be relied on, the same cannot be said of some of the material supplied by foreign firms, notably Belgian.

EDINBURGH ARCHITECTURAL ASSOCIATION.—On the 4th inst., at a meeting of the Edin-

burgh Architectural Association, Mr. W. W. Robertson, President, in the chair, a paper on "The First Wall of Edinburgh, or the King's Wall, and Some Evidence Relating Thereto," by Dr. Miller, F.S.A.(Scot.), was read by Mr. G. S. Aitken, F.S.A.(Scot.). Dr. Miller said Maitland asserted that the King's wall was built after 1450, but from a charter of James II. it appeared that this wall formed the boundary of houses on the south side of the High-street at an earlier date. The line of the wall, as shown with the aid of a limelight view, passed in almost a direct line from the Castle to the Netherbow, its course being through the centre of the block of houses on the south side of the High-street. Portions of the wall were discovered early this century at Parliament-square. This wall, said Dr. Miller, existed from the earliest period in the history of the town. Mr. Aitken then read a paper of his own on the subject of "Modern Edinburgh," discussing the precise point at which James Craig, the pioneer in the planning of the New Town, commenced his work. The lecturer said the fact usually stated was that the first house erected was in Rose-court, George-street, by John Young, and that it secured to him the premium of 20*l.* offered by the magistrates to whoever should build first, the foundation-stone being laid by Craig, October 26, 1767. Mackay, in his "Barony of Broughton," mentioned Thistle-court, and gave the date as 1766. In an early map, without date, published by Ainslie, which he stated was a copy of one in the possession of George Paton of the Customs, and dedicated to Lord Provost Steuart, thus fixing it at the years 1780–81, the only houses shown immediately behind St. Andrew's Church are the *vis-à-vis* two-story blocks still standing in Thistle-street, with gardens or forecourts separating them, and numbered 1, 2, 3, and 4. Another authority stated that the first house built in the New Town was No. 1, Princes-street, next the Register Office. This might mean that it was the first erected in Princes-street, for it was evident that priority of date settled the question in favour of the Thistle-street house. The early houses in Princes-street, it was said, had no doors to the main thoroughfares, but were entered by common stairs from the meuse lanes. This might quite well have been the case. As Craig's plan indicated no stables at the backs of the houses, the approach from that side would therefore be unobjectionable. The first part of the New Town begun was the eastward end, but in this quarter occurred no buildings of any special interest except Sir Laurence Dundas's house (which was designed by Sir William Chambers), and the corner blocks that flanked it in the line of St. Andrew-square. Of these two blocks, that to the north, it had been suggested, corresponded with the design in one of the Adam's volumes in the Soane Museum of a house for Mr. Andrew Crosbie, advocate (the original of Pleydell in "Guy Mannering"), but the fact was that the columns and mouldings did not accord with those usually employed by Robert Adam, indeed they were not good enough to be his work, and it was moreover unusual for him to use an order rising at once from the ground floor, although his father, William Adam, did so, as might be seen at Hopetoun House and Airth House. The most interesting and scholarly examples of the early phases of New Town architecture were to be found in the façades of Charlotte-square, and it would be well if, recognising this, the proprietors jealously guarded these treasures from being tampered with, or if it was necessary that alteration should be made, arrange that it be done with the utmost good taste, and in a conservative spirit. There was no portion of any of the four sides which would not repay careful study; each side was arranged on the central block and wing system, and one strong point of merit was that the roofs, contrary to practice in Classic architecture at that time, were made to form a visible and agreeable part of the composition. On the motion of Mr. Bonar, seconded by Professor Baldwin Brown, a vote of thanks was given to Mr. Aitken for his paper. A similar compliment was paid to Dr. Miller. It was agreed, on the motion of the President, to record in the minutes the Association's sense of the loss sustained by the untimely death of Mr. Gray, curator of the Scottish National Portrait Gallery.

GLASGOW ARCHITECTURAL ASSOCIATION.—The usual monthly meeting of this Association was held in the rooms, 114, West Campbell-street, on the 3rd inst. Mr. A. N. Paterson, M.A., in the chair. A paper was read by Mr. A. Graham on "Byzantine Architecture." A short historical survey of the style was given, after which several typical buildings were described, notably Santa Sophia and St. Sergius at Constantinople. Perhaps, said the lecturer, the most prominent characteristic of the style is the pendentive dome, and an account was given of its origin in Roman work and its adoption by the Byzantines, under whom it was perfected and made an integral part of design. The details of the style were illustrated by diagrams and plates, the lecturer concluding by referring to the adaptability of the style to modern requirements. A short discussion followed, and at the close a hearty vote of thanks was awarded Mr. Graham.

ENGINEERING SOCIETIES.

THE SANITARY INSTITUTE.—The ordinary general meeting of the Sanitary Institute was held on the 4th inst., at the Parkes Museum, Margaret-street, Sir George M. Humphrey, Vice-President of the Institute, in the chair. The annual report of the work of the Institute, together with the balance-sheet and statement of accounts, was received and adopted. Sir Thomas Crawford, Chairman of Council, said in reading the report that members would note with satisfaction that the work of the Institute had been carried on and extended with good results during the past year. He particularly referred to the lectures on the Sanitation of Industries and Occupations which had been delivered as a new departure in the work, and to the practical demonstration now given to students as part of their training for sanitary inspectors. The members and associates of the Institute at the end of 1893 numbered 1,319, and the income for the year amounted to 3,415*l.* The Duke of Westminster was re-elected President of the Institute. The meeting closed with the usual vote of thanks to the chairman.

LIVERPOOL ENGINEERING SOCIETY.—The eleventh ordinary meeting of the session of this Society was held on the 4th inst., Mr. Coard S. Pain, A.M.Inst.C.E., in the chair, when a paper, entitled "Some Methods of Regulating Pressure in Electric Light Circuits," was read by Mr. Wilfrid S. Boult, A.M.Inst.C.E. After pointing out the necessity for very exact regulation of pressure in currents running incandescent lamps, owing to the greatly-enhanced variation of light due to a small variation of pressure and the quick destruction of the incandescent filament if a large access of pressure takes place, the Board of Trade limitations were given, and the question was then considered under the following heads:—Irregular speed of engine; varying terminal E. M. F. of dynamo with varying load; varying loss of E. M. F. in feeders to mains with varying load; varying loss in mains, service lines, and house wiring. Numerous diagrams were exhibited, illustrative of the various apparatus and methods described in the paper, which was stated to be written more for the purpose of affording to non-electrical engineers a general insight into the present state of the question than with the object of being interesting to the electrical expert.

Correspondence.

To the Editor of THE BUILDER.

CHURCH OF ST. JOHN, DAMASCUS.

SIR,—I thank Mr. Spiers for considering so carefully the suggestions I put forward in regard to this church, and for joining in the attempt to define its ancient form.

In endeavouring to follow what would be the consequences of Mr. Spiers' present suggestion it is necessary to have a clear view of the plan of the whole mosque; possibly that in the *Builder* for March 17 may serve if it is remembered that the *two* wings are exactly alike, and that each is made up of *three* rows of columns, and a wall to the south, the *north* side being formed by one of the rows of columns.

Of this building certain parts appear to me Early Byzantine: the centre of north front with entrances, the window above, and the pediment making up the gable end: the arched centre, including the niches across the angles of the lantern: the south wall and gable.

In thus considering the whole of the centre block Byzantine, I agree with Choisy and Professor Lewis, but both these writers believe this part to be a transept. Professor Lewis says ("Holy Places"):—"This was, I have little doubt, the transeptal part of the great church said to have been rebuilt by Arcadius *c.* 395." I shall call the two plans now suggested A and B, as it is more easy—if I have to oppose—to oppose an abstract proposition.

Scheme A suggested that we had in the central part nearly the whole of a church of Byzantine, pier and arch, construction; that it was symmetrically placed in a great court; how it was related to previously-existing work; and how it might have been easily extended to form the present mosque.

Scheme B.—Mr. Spiers now agrees that it is difficult to believe that the centre was a transept, and gives up this part altogether. Of *two similar* wings, one is to be chosen—which one is uncertain—then, out of its *three* rows of similar columns at equal distances apart, *two* rows are to be selected; then, discarding one row and adding two other rows, four colonnades are obtained, and a basilica may be *designed* to contain them.

With the abandonment of the centre, every positive claim is given up, even the two rows of columns which are to be selected out of six are said to be Roman (see February 17). I will, however, show some of the consequences of entertaining scheme B.

a. Either the great courtyard must go with the centre building, or the church was absolutely in the corner with its entrances, narthex, and atrium external to this court.

b. In the transformation to the wing of a mosque the basilica was virtually destroyed for the sake of altering a five-aisled building into a three-aisled building when other mosques have more than five aisles, that of Jerusalem, as completed by Walid's father, having at least twice as many.

c. The suggestion that any columns weeded out furnished those for the other wing would account for little, because the north wall was (by hypothesis) taken down at the time when the extension was made, and was replaced by arches on similar columns.

d. The central portion, if a part of the reconstruction, was built against the transformed wing, so that its clearstory windows were half blocked by the roofs of the wing. Now we often find extensions blocking up windows previously existing, but this would be difficult to understand in buildings that are contemporary.

e. The rows of columns giving five unequal spans were so placed (we should have to suppose) that when two were removed three *equal* spans resulted.

f. The centre, together with a second wing copied from the altered one, and of the same length, made up an exactly symmetrical composition, and yet happened to fit the side of the courtyard exactly. This, with *a*, is too much to accept, and the courtyard must also be a part of the rebuilding if we adopt scheme B.

Referring to the original suggestions—1, I still think basilica B excessive for an Eastern church. It is said, however, that it might be a copy of the basilica of Jerusalem in form and size, but the form of the latter is probably the most problematical problem in Christian archæology, and its size is entirely unknown. I do not understand Mr. Spiers's dimensions of Bethlehem. The five-aisled nave is 87 ft. east and west by 75 ft. north and south; width of centre span, 34 ft. 3. Galleries, I admit, were not universal. 6. It is not the blocking of windows in dome to which I referred, but those of the clearstory of centre part, by roofs of the wings; see *d* above. 7. The canopy of the fountain is Arab, but the fountain itself I believe is not; granted scheme A, it comes exactly where it should be for the church. I cannot see any difficulty in constructing a dome of 45-ft. span at any time between the building of the Pantheon and Sta. Sophia; but I am not concerned with the dome, as I believe the present one to be Arab, and said of the former covering, (following the Isaurian Church) "dome or lantern." The niches, however, are very characteristic, and I look on them as types of transition, in this following Choisy.

As to the orientation, at a time of transition from a westward to an eastward direction, neither can be said to have been a *rule*. Nor, as I have before shown, was the choice confined at this time to the two. A church at Khoreisa was entered at the north, and had its apse, which appeared only on the *inside*, to the south (see "Survey W. Palestine," III., 356.) At Umm Keis a basilica stands exactly north and south, with an apse to the interior only. (Schumacher's "Ajlun.") The early churches in Rome box the compass; and those of Constantinople vary from the east-west direction by 30 or 40 deg.

Two points further. 11. Above the ancient Roman doors, and on the south wall of the centre block is placed an Early Christian inscription, "Thy kingdom, O Christ, is an everlasting Kingdom, &c."

12. Mukaddasi (985) names and describes the gates of the mosque. Two are clearly those into the court from the east and west. Then follows a third "in the eastern angle of the covered part of the mosque." "The fourth gate is called Bab al Farâdis (gate of the gardens). It is *opposite the Mihrab* (south centre), and opens into the arcades between *the two additions*, which have been built here on the right and on the left; above it rises a minaret." Mr. Le Strange (see "Pal. Pil. Text") suggests that this gate is the small one entering the *court* on the north, but allows that it is not clear. Possibly the Paradise might be explained by a reference to the atrium court of Old St. Peter's, which bore this name. I suggest that the gate *opposite the Mihrab* is the central entrance of *covered* part, the most important of the doorways, inside which the water vessels are placed (the minaret above is the only difficulty—possibly read, "in front of"?). "The additions which have been built on the right and left" would then be the two (Arab) wings. I do not offer this last as a proof, but as a conjecture which might become available if scheme A is accepted.

W. R. LETHABY.

"REDECORATION OF THE CONSERVATIVE CLUB, ST. JAMES'S."

SIR,—My attention has just been drawn to the article upon the above subject in your issue of March 31. In this article there are numerous errors which I trust you will allow me to correct. My father, Mr. Frederick Sang, decorated the Conservative Club in 1845. His work at the time gave the most perfect and entire satisfaction to the eminent architects, the late Messrs. Smirke and Basevi, and also to the members of the club. Since that time the work has so often been restored that my father's original designs and colouring had entirely disappeared. The fiasco made in 1892 arose from employing a firm of linendrapers and furniture dealers to do artist's work. The veined marble with which the walls of the lower hall were lined was of the cheapest sort, ⅜ in. thick, and infamously put together. The work was not carried out by Italians, but was done by cheap Belgian labour. I am surprised that any architect could have sanctioned such bad work. Upon the last special decoration committee there were three eminent architects and one well-known artist. The lower hall only was redecorated by my father, and was carried out after the original drawings made in 1845, the only addition introduced being gilding. The upper hall and ceiling of grand staircase were done in 1892 by the above-mentioned firm, so they are answerable for the dirty, "muddy yellows," &c., &c. The lower hall, just completed by my father, is in the Cinque-Cento style, and not "Modern Italian," as your critic says. The ("supposed") portraits of poets and painters are taken from the best sources, and were carried out by a clever portrait-painter. The work was not done by artists from Munich.

Regarding the Raphaelesques, everyone to his taste, but I must say that an artist could not do better than to take the great master Raphael as an example. This style is also perfectly in keeping and harmony with the style of the building. I do not know if your correspondent noticed the stained glass windows in the grand staircase. These windows are almost pure Gothic, and were done in 1892 by the same firm who did the marble work and muddy yellow painting.

HENRY H. B. SANG,
Architecte-Décorateur.
(Élève de l'École des Beaux-Arts, Paris.)
April 6, 1894.

ADMIRALTY EXTENSION BUILDINGS HEATING AND VENTILATING CONTRACT.

SIR,—The London Building Trades Union officials having interfered with my men on the pretext that they are working more than nine hours *per diem*, but really because they do not belong to the "Union," will you kindly allow me to state the following facts for the benefit of those interested. The rate of payment for skilled fitters is 9½d. to 10d. per hour. That for labourers is 6d. per hour. Expenses are allowed at the rate of 1s. per week per radial mile from works, with a maximum of 5s. per week. The men commence at 7 a.m., and leave at 5 p.m. Out of this time, one hour is allowed for dinner and paid for by me.

JOHN JEFFREYS.

LOWESTOFT SCHOOL BOARD COMPETITION.

SIR,—Notwithstanding the words in the advertisement inserted in your paper by the Clerk to the above Board—"The designs and plans . . . will be submitted to, and the Board advised upon their respective merits by, a competent architect"—I read in the *Lowestoft Journal* of the 7th inst. that "the General Purposes Committee have been almost at their wit's ends to know which to select, and as a last resource, one bewildered member has suggested that to the public shall be delegated the task of choosing."

Does this mean that the Board has forgotten the terms of the advertisement by which they have induced twenty-eight architects to make a large expenditure of time and money?

"SQUARE."

FLETTON BRICKS.

SIR,—There is one error in the letter you printed from "A Lover of a Good Brick" which ought to be corrected. He says our bricks are made from "Kimmeridge clay." Now any geologist will tell you that Kimmeridge clay does not exist at Fletton, nor within many miles of it.

HICKS, GARDENER & CO.

The Student's Column.

THE STRUCTURE AND PHYSICAL PROPERTIES OF BUILDING STONES.—XV.

2.—THE PORTLAND DISTRICT.

THE following sketch map (Fig. 20) shows the positions of the various quarries in this district, all of which we visited. The

FIG. 20.

FIG. 20.—*Geological Sketch Map of the Isle of Portland, showing sites of Stone Quarries.*

geological formations outcropping in the island, in descending order, are as follow:—

Purbeckian — (Vertical shading on map), covering about one-half of the area, but very superficial.

Portland Stone — (Vertical dotted lines), forming the hard surface from north to south.

Portland Sand—(Irregular dots), not seen in the quarries.

Kimeridge Clay—(Horizontal lines), underlying the whole, and forming the gentle slopes on the northern side of the island.

All the beds dip to the south at a low angle.

It may be noted that quarries are distributed more or less over the whole of the northern half of the outcrop of the Purbeckian and Portlandian beds, and many workings are so close together that they might be regarded as one gigantic quarry. In this area, as in some others to be described in a later article, the term "quarry" is difficult to diagnose, being, in fact, occasionally synonymous with a "gang of men." The figures in the above map, therefore, do not represent the sites of all the quarries we visited (which must have numbered at least one hundred separate workings), but denote points of special interest calculated to assist in elucidating the structure and physical properties of the whole of the materials known as Portland stone.

General Structure of Portland Stone.

There are three recognised kinds of Portland stone available for building purposes—(1) Roach, (2) Whitbed, and (3) Basebed, The first two are normally joined together as one bed, there being no horizontal joint or bedding plane between. The line separating them for commercial purposes is drawn by the quarryman, and it is no uncommon thing to find a part of the former "accidentally" joined to the latter, as the Roach is not so valuable as the Whitbed for building. The beds are superimposed in the order given, namely, the Roach is above the Whitbed, and that is above the Basebed. As a guiding principle, it may be taken for granted that the most distinctive structural character of the Roach is the presence of holes, sometimes rather large, from which fossil shells have been removed by the percolation of acidulated water; what shells remain are mostly large, also, but the general structure of the finer-grained parts of the Roach, between the fossils, is very similar to that of the Whitbed. The latter contains much shelly matter in its upper part, which decreases in corresponding ratio from above downwards, so that its base is practically free from organic remains so far as can be ascertained by the naked eye. The Basebed contains little or no visible shelly matter, very small quantities only being apparent, even with a lens. Broadly speaking, therefore, the Roach is seen to contain the remains of large shells in abundance; the Whitbed, as a whole, smaller ones; and the Basebed, hardly any. Excluding the Roach, as not being so extensively employed, by reason of its vesicular structure (though it is an exceedingly durable material), we should say that, in addition to relative abundance and size of shells, the Whitbed is of a light brownish tint, whilst the Basebed is almost white.

Now, hitherto, we have dealt with the general features of the broad structure of Portland stone; but these are somewhat complicated in districts where more than one Whitbed appears, or where the Roach is duplicated, or the Basebed "runs bad." Here it is that the architect would find some difficulty in recognising the beds *in situ*. It will be understood that as only the three kinds mentioned are known by name in the market, all varieties of building stone found in the island have to fit into one or other of these for commercial purposes, no matter whether they approximately correspond to or widely deviate from the types *sensu stricto*. But we must not pursue this subject further lest we be misunderstood; our only object is to enable the architect, when ordering a definite kind of stone, to be sure, on scientific grounds, that he gets it—a matter of some uncertainty at present, in many instances.

Micro-Structure of Portland Stone.

There is a general resemblance in the micro-structure of all the varieties of Portland stone, but they can, nevertheless, be readily distinguished from each other by certain generic characters. For instance, the Basebed always contains quartz grains rather plentifully, in the Whitbed these are not so abundant, whilst in the Roach they are practically absent. We make a slight reserve for those abnormally-developed beds duplicated in certain districts where the so-called Whitbed has as much free quartz as the Basebed. It is curious, although not difficult to account for, that the microscope shows the relative distribution of shelly matter in a contrary manner to that observable with the naked eye. For, whereas the Roach contains a great number of large shells, as already stated, its micro-structure between these shells indicates hardly any fragments of the same; the Whitbed has a slightly larger proportion of minute shells; but the Basebed, which as we know, rarely has any clearly discernible shells, is seen under the microscope to be very largely made up of minute shell fragments, and other organic remains.

Other distinctive micro-characters of Portland stone are the uniformity, or otherwise, of the oolitic granules, the state of alteration of these, and the presence or absence of matrix.

Comparing the micro-structure of the Portland stones of the Isle of Portland with that of the Purbeck-Portland group (with which they are sometimes confounded by architects), described in our last article, we find that the disposition and condition of the oolitic granules are practically identical in both groups, but there are, nevertheless, certain distinguishing features, viz.—The matrix in the Purbeck-Portlands is fairly abundant, its calcite being clear and showing lines of cleavage; but the true Portland stones have either no matrix at all, or but very little, spasmodically developed, and not too clearly defined, certainly not approaching the former group. Moreover, the Purbeck-Portlands contain many more free quartz grains than any of the true Portlands; in the latter they exist chiefly as the nuclei of oolitic granules, in the former mixed up indiscriminately with the other constituents of the

stone. The structure of the true Portland beds varies slightly with their geographical position.

We will now describe in detail a typical micro-section of each kind of Portland stone, commencing with the Basebed (fig. 21). The specimen selected for illustration came from

FIG. 21.

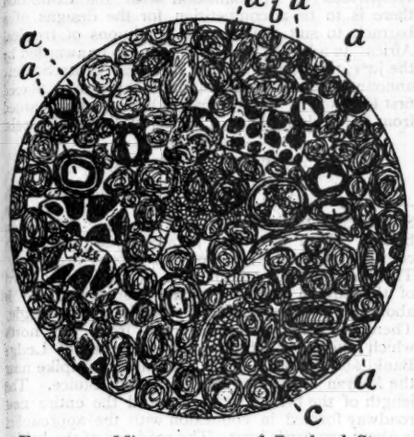


FIG. 21.—*Micro-structure of Portland Stone—"Basebed."* (*Wakeham quarries.*)

a = Quartz grains. *b* = Fragment with cells. *c* = Flinty granulated matrix.

the well-known Wakeham quarries. We notice that this is made up of a large number of oolitic granules, with shells and other organic remains partly adhering to each other, and partly also bound together by matrix. The oolitic granules are very distinctive, quite different to those found in the Bath, Ancaster, Ketton, Weldon, or other oolitic limestones. They are mostly very hazy, and seem to have been much decomposed at some period of their existence, but were arrested before finally being removed, or broken up; subsequently they became hardened, until now we find them so hard (and in a measure crystalline) that the durability of the material is entirely governed by them. After the manner of the Basebed in general, but very little matrix is apparent, and that is distributed in local patches as shown in the figure towards the middle and bottom (*c*) of the section. It is fortunate for the stone that this matrix is not only very crystalline, but is silica, really granulated flint, and tends towards its general preservation. A chemical analysis of the sample, however, would yield a much higher percentage of silica than is found in the matrix merely, for we see that many quartz grains (*a*) occur as the nuclei of oolitic granules, and which do not assist the stone in resisting the action of the weather in the slightest degree. An analysis would show about 2·5 per cent. of silica, of which only about 1 per cent. is matrix—not a very valuable help, but better than nothing, or calcite. The student will notice a number of shell fragments and other organic remains (*b*), the abundance of which is peculiar to the material, as compared with other Portland beds.

Passing now to the micro-structure of the Whitbed, we select a typical specimen for illustration (fig. 22) from Tout quarry, in the north-

FIG. 22.

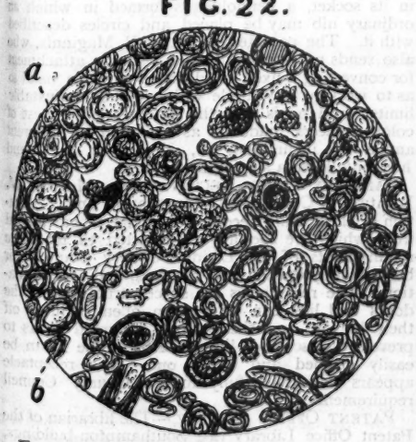


FIG. 22.—*Micro-structure of Portland Stone "Whitbed."* (*Tout quarry.*)

a = Quartz grain. *b* = Local patches of flinty matrix.

west of the island, where a very large amount of the material has been removed. It differs from the Basebed in having the oolitic granules farther apart, by the comparative infrequency of quartz grains (*a*), and the paucity of organic remains. Further, the oolitic granules, although still rather hazy, possess more structure; they do not seem to have been so much affected by what may be called "primary decomposition," and are more crystalline in nature. As in the Basebed, local patches of granulated flinty matter (*b*) occur, binding together a few of the surrounding constituents of the stone, but there is no matrix, properly so-called. Four quartz grains are visible in the section under consideration, all existing as nuclei of granules; this number is in excess of the average quantity in the Whitbed, where we sometimes search over a whole micro-slide before detecting even one such grain. The great strength and durability of this material lies in the highly crystalline nature of its calcitic, oolitic granules, and the firmness of their adhesion to each other.

The specimen from which the micro-section of Roach about to be described was cut came from the Toutfield quarries. The student will understand that we are only able to refer to the structure of the finer parts of the stone, owing to the vesicular character of the remainder. Comparing it with its nearest ally, the Whitbed, we note a still further decrease in the number of quartz grains; the oolitic granules are about the same, but we can detect no flinty matter, although there is some semblance of a matrix in several parts of the stone. Here and there minute calcite veins run through the material; the oolitic granules are locally congregated so closely together, and fit so tightly as to suggest a species of concretionary structure. The micro-structure of the Roach passes insensibly into that of the Whitbed, as might be surmised from what has already been said.

Three other hard limestone beds in the island, but of no value for building purposes, are known respectively as the "Cap," "Skull Cap," and "Curf." To prevent confusion with the other beds, it is only necessary to say that the micro-structure of the Cap and Skull Cap shows them to be full of minute punctures, or deep holes, whilst the oolitic granules are very much smaller than in any of the building stone series; there is more matrix, and that is calcitic, quartz being practically absent. The Curf is finer even than the Skull Cap; it has more matrix, its oolitic granules are not so distinct, and the stone generally is more quartzose.

GENERAL BUILDING NEWS.

RUTHERFORD COLLEGE, NEWCASTLE. — The Duke of York opened the new Rutherford College of Science and Art, Bath-lane, Newcastle, on the 5th inst. The architects of the new college are Messrs. Oliver & Leeson, of Newcastle. The new college faces Bath-lane, and has a frontage of 120 ft. There are basement, ground floor, and first, second, and third floors. On the basement are dining rooms for boys and girls, metallurgical laboratory, &c. On the ground floor is the large examination and assembly hall, 63 ft. by 40 ft. This has a gallery and a platform. There are also, on the same floor, a physics lecture room; a second physics lecture room, a physics laboratory, a preparation room, a small optical room, master's room, lavatory and cloak room, &c. On the other side of the corridor, there are a committee room and registrar's room on one side of the lobby, and on the other side, a library and reading room. The assembly hall and physics lecture room run up through the first floor, the gallery being on a level of the first floor. There are, besides, on the first floor, six class-rooms. On the second floor the central space is occupied by the lights of the assembly hall. On three sides of this are the following rooms:—Still life room, antique room, master's room, general cast room, model drawing room, and an elementary art room. On the other side of the corridor are:—Modelling room, building construction room, machine construction room. On the third floor are the following:—Chemistry lecture preparation room, chemistry lecture theatre, two small dispensaries, teacher's room; elementary chemistry laboratory, 116 ft. at its greatest length, and 31½ ft. at its greatest width; balance room, honours chemical laboratory, organic combustion room, biology preparation room, physiology preparation room, and a physiology and biology laboratory. The tower will be used as an astronomical laboratory. The whole contract for the building was given to Mr. Alexander Pringle, of Cramer Dykes, Gateshead. The clerk of works was Mr. David Campbell, and the heating engineers were Messrs. Ashwell & Nesbit, Leicester and London. The ventilation is on the Plenum system.

PROPOSED ISOLATION HOSPITAL, DORCHESTER. —A Local Government inquiry was held at Dorchester on the 29th ult. by Mr. H. Timbrell Bulstrode, M.D., respecting an application by the Town Council for sanction to borrow the sum of 800*l.* for the erection of an Isolation Hospital for the borough. A site, one acre in extent, has been purchased from the Duchy of Cornwall, about a mile from the town, and a quarter of a mile distant from the nearest dwelling-house. The accommodation now proposed to be provided comprises a ward pavilion, containing two double-bedded wards and nurses' room; a caretaker's cottage, with bedrooms for nurses and attendants, and the usual outbuildings. In addition to the foregoing, provision is made in the design for the erection of a second ward pavilion, containing similar accommodation, should it be found necessary. The plans were explained in detail by the Borough Engineer and Surveyor, Mr. G. J. Hunt, who is the architect for the works. At the close of the inquiry, the Inspector visited the proposed site, to which considerable opposition had been offered at the meeting.

METHODIST CHAPEL, WREKENTON, DURHAM.—The foundation-stones of a new chapel at Wrekenton were laid a short time since. The main entrance to the building will have an outer porch, with folding doors to an inner vestibule leading to the chapel, which will be 36 ft. by 24 ft., with a class-room or vestry at the rear, 16 ft. by 12 ft., under which is placed the heating-chamber, &c. An entrance is provided on one side, communicating with the class-room and the chapel, which will serve as an exit at the rear. The style of architecture is Gothic, and the chapel is built of Birtley bricks with stone dressings, relieved with red bands, quoins, and string courses, &c. The main feature is the front gable and entrance porch, both of which have overhanging ornamental barge boards. The contract for the whole of the work is being executed by Mr. Isaac Bewley, builder, of Dunston, from the designs of Mr. John W. Firth, architect, Oldham.

CHURCH, MARSDEN, YORKSHIRE.—The foundation-stones of a new church for Marsden were recently laid. Mr. C. Hodgson Fowler (Durham) and Mr. J. Kirk (Huddersfield) have drawn plans of a church in the fifteenth-century Perpendicular style. Tenders for the carrying out of the full design came to about 11,000*l.*, but in the present scheme only a nave, aisle, and porches will be erected, the contracts amounting to 7,500*l.* The church is being built on the original site on the south side of the river Colne.

MISSION CHURCH AND SCHOOLS, ST. HELENS. —The memorial stone of the new mission church and schools, which are being erected at Cowley-hill in connexion with the parish of St. Helen's, was laid recently. The total cost of the schools will be a little over 8,000*l.*, and they are designed for 400 boys and 400 girls of the upper standards. The scheme contemplates the use of the buildings as a mission church, and a large chancel is included in the plans on the ground floor, which will be screened off entirely through the week, and thrown open on Sundays. The mission church will accommodate over 700 people. The work is to be completed in eleven months. The architects are Messrs. Willink & Thicknesse, Liverpool, and the contractor is Mr. Whittaker, of St. Helens.

PROPOSED RESTORATION OF GRINTON PARISH CHURCH, YORKSHIRE.—At a recent meeting of the parishioners of Grinton-in-Swaledale, it was decided to restore the Parish Church of St. Andrew, and the plans submitted by Messrs. Hincks & Charleswood, architects, of Newcastle-on-Tyne, were accepted. The work is estimated to cost some 2,000*l.*

VICTORIA INSTITUTE, WORCESTER.—On the 3rd inst., the Duke of York laid the foundation-stone of the Victoria Institute, Worcester. The architects are Messrs. J. W. Simpson and E. J. Milner-Allen, of London, whose designs were selected in open competition by Mr. Waterhouse, R.A., the assessor. Messrs. Wood & Son, are the builders.

BOARD SCHOOL, SHARROW LANE, SHEFFIELD. —The new junior mixed department which has just been added to the Sharrow Lane Board Schools was opened on the 9th inst. The buildings which already occupied the site consisted of schools for boys, girls, and infants; the new department is a mixed school for junior boys and girls. The design of it harmonises with the older schools. The architect has raised the building on pillars, so as to get covered playsheds below, and not only has the extent of the playground thus been preserved but better lighted rooms have been obtained. There are four class-rooms, each for 60 scholars, and the central room will accommodate 100 more. All the class-rooms can be overlooked by the head teacher from the central room, and two of the rooms can be opened by the manipulation of the single action sash partitions originally invented by the architect of the school. There are rooms for teachers and the necessary stores, cloakrooms, and lavatories. Messrs. Newton Chambers & Co., Limited, have supplied the heating apparatus, which is on the low pressure principle, worked by one of their "Kingston" patent boilers. The contractor for the whole of the building works was Mr. John Greenwood, of Atterciffe; the asphalting of the yards was done by Mr. John Hadfield, of Ellesmere road; the clerk of the works was Mr. E. Cartwright; and the architect was Mr. C. J. Innocent, of Sheffield.

PROPOSED RENOVATION OF ALL SAINTS' CHURCH, NORTON, NORTHAMPTONSHIRE. — All Saints' Church, Norton, a church of the fifteenth century, is about to be renovated. The interior of the edifice is to be cleaned, and the old-fashioned straight-backed pews are to be taken out, and to be

replaced by pews of a more modern date. The flooring of the church is to be improved. Mr. R. Armstrong, of London, is the architect under whose supervision the alterations are to be made; and Messrs. Neal & Bosworth, of Daventry, are the builders.

STAINED GLASS AND DECORATION.

WINDOWS, ALL SAINTS' CHURCH, PLYMOUTH.—Four large single lights in the apse of this church are now filled with painted glass. They represent patron saints of some of the guilds of the parish. The figures are very large, standing upon simple bases and under canopies with quarry work at top and bottom. They are the gift of the vicar, Rev. C. R. Chase, and were executed by Messrs. Percy Bacon Brothers, of London, after suggestions by Mr. Edmund Sedding, architect, of Plymouth.

MEMORIAL WINDOWS, RUSTINGTON, SUSSEX.—On the 24th ult. two memorial windows, recently placed in the Parish Church, Rustington, were dedicated. One of the windows, executed by Messrs. Ward & Hughes, London, portrays the renunciation of St. Elizabeth of Hungary. The subject of the other window is the Virgin and Child.

WINDOWS, SALISBURY DIOCESAN HOUSE OF MERCY.—Three painted windows from the studio of Messrs. Charles Evans & Co., London, have been placed in the apse of the Chapel of the Salisbury Diocesan House of Mercy, erected as a memorial to the late Hon. Christopher P. Bouverie. Representations of the Virgin, Isaiah, and St. John the Baptist are introduced, and the arms of the Diocese and various emblems are shown in the ornamental portion. Mr. G. Hamilton Gordon was the architect.

WINDOW, KILTEGAN CHURCH, LIMERICK.—A painted window from the studio of Messrs. Charles Evans & Co., London, has just been placed in Kiltegan Church, co. Limerick, by Mrs. Langrishe and Mrs. Keith-Falconer in memory of their father. Representations of the Evangelists are introduced in the lights, and the window has the following inscription:—"To the Glory of God and in memory of the Right Hon. W. W. F. Hume-Dick, Q.C."

MEMORIAL WINDOW, FREE METHODIST CHAPEL, SHEFFIELD.—A new stained glass window to the memory of the late Mrs. Wardlow, which has been placed in the front end of the Surrey-street Free Methodist Chapel, Sheffield, was dedicated on the 9th inst. The renovation and redecoration of the chapel has also only just been completed under the direction of the architect, Mr. C. J. Innocent. The gallery pewing has been remodelled and modernised, and the pewing under the galleries has been made like that in the centre of the chapel. A panelled dado has been placed round the interior and new staircases have been fixed at the entrances. The old wooden columns to the galleries which were giving way have been removed, and iron columns substituted. By arrangement with the adjoining owners the blank windows on the side next to the music-hall have been opened both upstairs and under the galleries. The stained glass window is a large square one, and represents the three Marys going to the tomb early in the morning on the day after the Passover and finding the angel clothed in white seated on the tomb. The work has been executed by Messrs. John Hardman & Co., of Birmingham, under the direction of Mr. Innocent, the architect. A new warming apparatus has been put in by Messrs. Truswell & Sons on the high-pressure system. The premises have been painted and decorated by Messrs. Johnson & Appleyards. The repairs and alterations have generally been carried out by Messrs. W. & A. Forsdike.

FOREIGN AND COLONIAL.

FRANCE.—The Société Nationale des Beaux-Arts (the Champ de Mars Salon) has refused to take any part in the Antwerp Exhibition in consequence of the refusal of the managers of the exhibition to give them an equal place on the jury with the representatives of the Old Salon.——It is announced that henceforth the hours of opening of the Louvre and Luxembourg Galleries will be from 9 to 5 instead of from 10 to 6 as hitherto. The hours of the Cluny Museum will also be extended to 5 o'clock.——The Jury of the Champs Elysées Salon has received 1,862 pictures and 686 drawings, pastels, and miniatures.——The Gare du Nord, Paris, is shortly to be enlarged.——A committee, presided over by M. Carolus Duran, has been formed with the object of erecting a monument in honour of Watteau in the Luxembourg garden.——The Academie des Beaux-Arts has just been deciding on the results of the work sent for the Duc prize, which has not been awarded in consequence of the insufficient merit of the designs sent in. The competition has been cancelled and adjourned to another year.——The Minister of Public Instruction has commissioned M. Théophile Poilpot, author of various well-known panoramas, to paint a large picture for the museum at Versailles representing the scene of the loss of the *Vengeur* battleship.——M. Albert Ballu, the architect, has been commissioned to rebuild the celebrated Café Riche, at the angle of the Boulevard des Italiens and the Rue le Pelletier. The new building, which will be of the most luxurious type, will include some important decorative work to be carried out by MM. Felix Barrias, Doucet, and Guillaume Dubufe, as well as some large mosaics by M. Facchina after cartoons by M. Forain.——The "Société Académique d'Architecture" of Lyons has opened its annual architectural and archæological competition. For architecture it has given as subject a Hôtel for the military Governor-general of Lyons and his Staff. For the archæological competition the subject is the City of Lyons in 1550, including the plans of various important buildings of that date.——Twenty-two designs have been sent in for the competition for a museum and library at Périgueux. The first premium was given to MM. Planckaert and Godefroy of Limoges, who will carry out the buildings; the second to M. Legrand of Paris, and the third to M. Erard, also of Paris.——The Société des Arts at Valenciennes has started a scheme for an annual art exhibition, to be held every September.——The death is announced of M. Eugéne Abot, the engraver, an excellent artist equally as engraver and etcher. He executed various fine plates for the *Gazette des Beaux-Arts*. He made also a number of illustrations for the works of Flaubert, and for the "Inferno" of Dante. He exhibited two engravings in the last Salon.——The jury of École des Beaux-Arts has decided on the competition of students of the first class in architecture. The programme was a Palais de Justice. Medals were awarded to Messrs. Sirot, Bernard, and Prudon.——The jury of architecture at the Salon this year will consist of MM. Daumet, Coquart, Ginain, Vaudremer, Pascal, Guadet, Mayeux, Laloux, Loviot, Garnier, Raulin, and Corroyer, with M. Esquie and M. Deslinières as supplementary members.——It is proposed to utilise the Pavillon de Flore at the Louvre for the organisation of a Fine Art School for female artists (painters and sculptors).

GERMANY.—On January 1 the German *Architekten Verein* numbered 1,822 members. During the year another 400*l.* has been paid off the debt incurred by the building of the *Architekten-Haus*, whilst the benevolent fund has been enriched by 3,500*l.* under the will of the late Herr Richter. The library now contains 11,930 volumes. The *Verein* is at present engaged on a new edition of "Berlin and its Buildings," in conjunction with the *Vereinigung Berliner Architekten*, which is to be ready in 1896, in time for the contemplated general gathering of the Associated German Architectural and Engineering Societies at Berlin.——The directors of the Wilhelma Insurance Company of Magdeburg announce a competition for the designs of a new building for the use of the company. The sum of 22,500*l.* is not to be exceeded. Three premiums will be given, of the respective values of 200*l.*, 125*l.* and 75*l.*, whilst other designs may be "bought" for 25*l.* The jury comprises the following architects:—Messrs. Wallot (Berlin), Hossfeld (Berlin), Licht (Leipsic), and Peters (Magdeburg).——The premium for the designs of a Columbus monument at Lehe, near Bremerhaven, has been awarded by the jury (the professors of the Munich Academy of Art) to Ludwig Habisch, of Darmstadt, who has been entrusted with the carrying out of the work.——A special feature at this year's Berlin Art Exhibition will be the decoration of the central halls, undertaken under the direction of architect Hoffacker.——Excavations near Cannstadt, in Würtemberg, have led to the discovery of a large watch-tower, dating from Roman times, the walls of which are about 4 ft. in thickness, and are maintained to a height of about 4 ft. This is the first Roman military work, unconnected with the *Limes*, hitherto discovered in Würtemberg.——The foundation stone of the Berlin Cathedral will probably be laid by the Emperor in the commencement of June. During the second half of 1893 over 14,000 cubic mètres of earth were carted away, and 4,600 cubic mètres of the old foundations removed. It is expected that the vaults and the greater part of the works on the ground level will be completed during the course of this year.——Work is rapidly progressing on the Emperor Frederick Memorial Church in the Thiergarten, under the direction of Herr Leibnitz, with a view to its completion next year. 12,500*l.*, of a total of 27,500*l.*, has still to be subscribed towards the cost.——The Society for the Extension of German River and Canal Navigation has presented a resolution to the Government in favour of Herr Messerschmidt's project for a canal to unite the Rhine, Weser, and Elbe. The proposed canal would be about 150 miles long, involving a cost of nearly 12,000,000*l.*——The recently-completed lock on the Spree at the Mühlendamm has taken three years to build. It is 360 ft. long by 31 ft. wide, and can be filled in two minutes, the doors and sluices being worked by hydraulic pressure supplied by the neighbouring weir.

ITALY.—There is to be an international Art Exhibition at Rome under the auspices of the Art Union, to commemorate the twenty-fifth anniversary of the entry of the Italian troops into that city.

BELGIUM.—A harbour is projected at Heyst in connexion with the port of Bruges. The scheme has been submitted for consideration to several English dock engineers.——At the Antwerp Exhibition, in addition to the "Old Antwerp" street, there will be reproductions of a ruined Rhenish castle, a Syrian bazaar with mosque and seraglio, the Vienna Prater, a complete Tunisian square, and a miniature Eiffel Tower. Most of the houses of "Old Antwerp" are already completed, and are being let at rents varying from 150*l.* to 800*l.* The 15th inst. was the last day on which works would be received. Sir Frederic Leighton has, we understand, promised to exhibit "Rizpah" and the "Garden of the Hesperides." In connexion with the exhibition there is to be a competition for the designs of a barrack to suit the climatic conditions of tropical Africa. In addition to the premiums to be awarded by the jury, the Congo and African Red Cross Society announce that they will purchase the design placed first for 4,500 fr. Further particulars may be obtained from Baron de Bethune, 4, Place du Trône, Brussels.

MISCELLANEOUS.

BRIDGE, SEATON SLUICE, NORTHUMBERLAND.—A new bridge spanning the valley at Seaton Sluice has been opened for traffic. The new bridge, which has been about eleven months in course of construction, consists of one arch only. This has a 50-ft. span, and the height from the bed of the stream beneath to the roadway above is about 33 ft. The parapet is nearly 4 ft. in height. There are two approaches, one from the north which joins the Blyth turnpike at the top of Lodge Bank, and the other joins the Shields turnpike near the Melton Constable Inn, at Seaton Sluice. The length of the bridge is 150 ft., and the entire new roadway formed in connexion with the approaches is about 430 yards long. The roadway of the bridge is 24 ft. wide. There is a footpath from 6 ft. to 7 ft. wide at the east side of the bridge, and this path extends along the entire length of both the bridge and the new roads. The structure stands on cement put on the highest flood level. It is built throughout of stone worked from the old quarries at Seaton Sluice. The haunches are of cement concrete, the arch of ashlar stone; the abutments and wing walls are of snecked ashlar, and the parapets of dressed ashlar. The contractor and builder has been Mr. W. T. Weir, of Howdon-on-Tyne, and the engineer is Mr. John Waters, Surveyor to the Highway Authority, who has had the supervision of the work, assisted by his inspector, Mr. Thos. Maughan, of Whitley.

DRIP LUG FOR RAIN-PIPES, &C.—This, known as "Baker's patent drip lug," and patented by Messrs. Baker & Vickers, consists of a projecting lug cast on or fixed to the pipe, spreading out into a flat piece with nail-holes for attachment to the wall; the object being to fix and firmly support a rain-spout or soil-pipe so far from the surface of the wall as to clear ordinary projections of stringcourses or plinth, and to keep any overflow or leakage water from running down the wall, thus minimising the mischief from these causes. A double lug at right angles is made for fixing spouts in angles of a building. The device is simple and useful.

DRAWING MATERIALS.—Messrs. E. Wolff & Son send us their pencil beam compass, which it is a mistake to describe specially, as they do, as "a really reliable instrument," as if other beam compasses were not reliable. Its special merit is that it is very cheap and light, easily carried about, and will do a good deal of ordinary work for moderate-sized circles as well as a more costly instrument. It consists of two rods about the size and appearance of ordinary pencils, which can either be used separately or be united into one by a metal ferrule connecting them. The needle-point and the pencil-holder are attached to two similar slit ferrules, which can be slipped on at opposite ends of the stick, and can be pushed backward or forward as required for the radius. Nicety of adjustment of radius would not be very easy, but the small instrument will be useful for occasional work where no great nicety of adjustment is required. By reversing the working pencil in its socket, a penholder is formed in which an ordinary nib may be placed and circles described with it. The patentee is Mr. J. P. Maginnis, who also sends us a diagram of a T-square attachment for converting a fixed head into a movable head so as to work at any angle within certain adjustable limits; and he is also the patentee of a nest of colour saucers made so as to stand at different angles of inclination, or, if desired, to stand horizontally on a sloping desk.

SANITARY DUNG RECEPTACLES.—Messrs. W. E. Atwell & Co. send us a description and illustration of their dung receptacles, made of galvanised iron, which are specially constructed to meet the requirements of the London County Council for being readily opened and cleansed, and for ventilation. The receptacles are so constructed that the doors and lids can be thrown open or lifted off their hinges, and the bottom is curved so as to prevent the escape of liquid matter, while it can be easily cleaned and swept out. The receptacle appears to answer fully to the County Council requirements.

PATENT OFFICE LIBRARY.—The librarian of the Patent Office Library (25, Southampton-buildings, Chancery-lane), asks us to draw the attention of those of our readers to whom such a library may be useful, to the fact that the library is open free every week-day from 10 A.M. to 10 P.M. The library contains English, Colonial, and Foreign Specifications and Trade Marks, as well as a number of scientific text-books and periodicals.

SHEFFIELD MASTER BUILDERS' ASSOCIATION.—The members of this Association held their annual dinner at the "King Arm's" Hotel, Commercial-street, on the 6th inst. Mr. J. Spink presided. Mr. Coward proposed "The City and Trade of Sheffield," and Mr. H. Brumby gave "The Corporation." The latter gentleman alluded to the heavy rates in the city, and contended that much of the high expenditure was due to the Highway Department. He urged that the work could be done at much less cost by contract than by employing labour direct. Mr. George Carr, in replying, pointed out that some years ago the contracting for work was not satisfactory. Mr. Biggin proposed "Success to the Master Builders' Association," and expressed the opinion that workmen in the building trade were not of so good a class, as a body, as those of ten or fifteen years ago. The London builders, he said, were disappointed with the working of the shorter hours and higher wages movement, and the argument that as much work could be done in a day of eight hours as in one of ten had been found to be erroneous, actually less work per hour being done. He thought that the present so-called system of apprenticeship was greatly responsible for the deterioration of the workmen. Alluding to the unfair manner in which builders were treated by some architects and employers, he advocated the general adoption of what was known as the London agreement, by which all matters in dispute were referred to a third party. Concluding, he urged the further strengthening of their organisation.

PATENT LAW IN DENMARK.—Messrs. W. P. Thompson & Co. Patent Agents, write to call the attention of our readers to the fact that on the 28th ult. a new Patent Law for Denmark passed both Chambers of the Legislature, and it is expected will be signed by the king in the course of a few days. The principal features are the same as in the laws of Germany, Norway, and Sweden, viz.:—Protection from date of filing application; duration of patent fifteen years; importation of patented articles prohibited; examination as to novelty prior to the grant; opposition to grant by interested party permitted. The new law is to come into operation about the middle of June.

THE PAINTERS' TRAINING CLASS.—This class, instituted by the Company of Painter-Stainers, and which has before been referred to in our columns, completed its first term on the 6th inst. The company have decided to open it again for a summer term on the 24th inst. A good class of young men has attended, and it is chiefly at their request that the class will be open in the summer. The instruction is entirely practical; that is to say, it deals with the manual processes upon which the excellence of workmanship depends.

CAPITAL AND LABOUR.

BRICKLAYERS' STRIKE, CROMER.—The bricklayers employed by the Cromer builders have come out on strike. The men had been receiving 5½d. per hour. A deputation on their behalf had a consultation with the masters, and asked 6½d. per hour. The masters offered 6d. per hour, which the strikers were willing to accept provided their employers would sign a certain code of rules, which the masters decline to do. This appears to be the sole point upon which masters and men are now at variance.

STRIKE OF PLASTERERS AND LABOURERS, LEICESTER.—The plasterers and labourers of Leicester have commenced a general strike for an increase of wages on those at present ruling in the district.

STRIKE IN THE WOLVERHAMPTON BUILDING TRADE.—A dispute has arisen in Wolverhampton between the master builders and their workmen with respect to wages. About 150 men have come out.

MEETINGS.

FRIDAY, APRIL 13.

Architectural Association.—Mr. W. H. Seth-Smith on "Bases of Successful Architectural Practice in the Twentieth Century." 7.30 p.m.

Institution of Civil Engineers.—Students' Visit to Barnes Bridge, London and South-Western Railway, to inspect the sinking of a Caisson; and subsequently to the new Lock and Weir at St. Margaret's, Richmond.

Junior Engineering Society.—Mr. William F. E. Seymour on "Lubricants; their Use, Testing, and Analysis." 8 p.m.

SATURDAY, APRIL 14.

Architectural Association.—Visit to St. Paul's Cathedral to view the new mosaics. 2.30 p.m.

St. Paul's Ecclesiological Society.—Visit to St. Paul's Cathedral.

Queen's College, Cork.—Mr. Arthur Hill on "The History of Architecture." XIII. 3 p.m.

MONDAY, APRIL 16.

Surveyors' Institution.—Adjourned Discussion on Mr. Howard Martin's paper on "The Report of the Local Government and Taxation Committee of the London County Council on the Subject of the Rating of Ground Values." 8 p.m.

Liverpool Architectural Society.—Mr. W. E. Hill on "Mediæval Architecture in the West of England," with limelight illustrations. 6.30 p.m.

Leeds and Yorkshire Architectural Society.—(1) Annual Report; (2) Election of Officers. 7.30 p.m.

Society of Arts (Cantor Lectures).—Captain W. De W. Abney on "Photometry." III. 8 p.m.

TUESDAY, APRIL 17.

Institution of Civil Engineers.—(1) Mr. Leveson Francis Vernon-Harcourt. M.A., on "The Training of Rivers." (2) Mr. Henri Léon Partiot on "Estuaries." 8 p.m.

Builders' Clerks' Benevolent Institution.—Annual Dinner, Holborn Restaurant. 6 p.m.

Royal Institution.—Professor J. A. Fleming, M.A., on "Electric Illumination." III. 3 p.m.

WEDNESDAY, APRIL 18.

Architectural Association Camera Club.—Mr. Walter D. Welford on "The Hand Camera and Architectural Photography." 8 p.m.

Builders' Foremen and Clerks of Works' Institution.—Quarterly Meeting of the Members. 8.30 p.m.

Society of Arts.—Mr. Alexander Millar on "Design Applied to Carpets." 8 p.m.

THURSDAY, APRIL 19.

Society of Antiquaries.—8.30 p.m.

Society of Arts (Foreign and Colonial Section).—Mr. G. Collins Levey on "Tasmania and the Forthcoming Hobart International Exhibition, 1894-95." 8 p.m.

FRIDAY, APRIL 20.

Institution of Civil Engineers (Students' Meeting).—Mr. Henry T. White on "The Sinking by Compressed Air of the Cylinder Foundations of the Trent Viaduct." 8 p.m.

SATURDAY, APRIL 21.

Architectural Association Camera Club.—Visit to the Charterhouse. Meet at the Charterhouse at 2.30 p.m.

Edinburgh Architectural Association.—Visit to the Glen.

Queen's College, Cork.—Mr. Arthur Hill on "The History of Architecture." XIV. 3 p.m.

RECENT PATENTS:

ABSTRACTS OF SPECIFICATIONS.

4,584.—WINDOW FASTENERS: *J. C. Howe.*—This invention consists of a metal-plate, wheel and two raised pillars or flanges, carrying a thumb-screw entering holes in plate fixed on the top sash.

8,329.—SLIDING DOORS: *J. Luty.*—The doors which form the subject of this invention are mounted on a carriage with rollers fixed on metallic centres. The top of the door is fixed to the carriage by a fork, and a similar fork is affixed at the bottom of the door to allow of same operating in a slot in the floor.

8,441.—COVERING AND DECORATING WALLS: *N. Rigby.*—This invention consists of a compound of cement, plaster of Paris, white lead, and finely-powdered glass. This is spread on a sheet of highly-polished glass, and successive coats applied. The smooth surface is then soaked with linseed-oil and varnish, which is allowed to drain off and leave the surface hard and smooth.

8,680.—VENTILATION: *W. C. Toone.*—Specially suitable for application to windows, the sashes of which slide to open. It is a modified form of one or both meeting bars, or an attachment thereto, which forms an opening, regulated from the interior of the apartment by a valve.

8,842.—CHIMNEY COWL: *J. Hacking.*—The cowl and shaft is made in the ordinary way, but instead of being mounted on a centre spindle the cowl is mounted on an annular ring supported by anti-friction runners, and easily lubricated.

961.—SAWS FOR STONE: *J. L. Chevalier.*—The teeth of the saw which is the subject of this patent are formed separately from the blade, and these teeth have prepared cutting-points made of a fine quality of tempered steel, and are so attached to the blade of the saw that they can be removed for sharpening.

1,362.—ROOFING TILE: *T. A. Aldridge.*—To make a tile proof against rain and storms of wind some improvements are introduced. The tile consists of a foundation or body combined with ridges or projections on the front, and recesses, channels, and nail-holes on the back.

1,396.—PAVING BLOCKS: *G. Bagge* (Antony).—The blocks which form the subject of this invention are made of sawdust and fine stone pressed by hydraulic power under the simultaneous binding power of pressure and heat.

4,856.—BOLTS: *W. T. Mortimer.*—The bolt which is the subject of this patent is a barrel bolt let into the door or window by a mortice. A slotted metal plate is fixed so as to allow the bolt taken by the knob to slide in and out of the opening made to receive it.

6,038.—WOOD SCREWS: *J. Fry.*—This patent relates to screws designed specially for work where the nature of the wood renders a risk of straining or splitting the wood. The screws are made with a tapered neck and a gimlet end to facilitate the insertion and screwing home with only a slight application of force.

8,853.—WOOD SCREWS: *W. F. Needham.*—This is a screw with an eye part formed at a short distance from the head—that is, between the head and the wormed or screw-threaded portion. It is chiefly designed for use in angular wooden structures, or for securing angular parts of bamboo furniture together.

9,388.—EARTH-CLOSETS: *M. A. T. Wiede* (Bremen).—Consists chiefly in the employment in earth-closets, for the discharge of the disinfecting material to be strewn, of a tray connected with the holder of such material, and with the lid of the closet, in such a manner that when the lid is open it will not allow the material to escape, but releases it when the lid is closed, the material being at the same time loosened by a stirring mechanism.

9,482.—VENTILATORS: *H. T. Johnson.*—To prevent rain and dirt accumulating, and to admit of the interior being readily cleaned, a ventilator is constructed in three parts, a wall-box or grating, a wall-box for hopper, and a hopper and frame, the conjunction of these secures the desired end.

14,331.—VENTILATING GREENHOUSES: *F. C. Chadborn.*—A thermostatic device is employed for regulating the admission of fluid and controlling the admission of air to the greenhouse, the fluid (under pressure) being confined in a cylinder, and acting on a piston actuates the movement of the ventilator.

21,114.—GUARD OR COVER FOR WOOD-CUTTING MACHINERY.—*J. Campbell and another.*—Consists of a fixed or adjustable vertical support carrying at its upper end an adjustable guard or cover.

1,590.—COWLS: *C. W. J. Martens* (Hamburg).—A double cone arrangement designed to facilitate the up-draught by deflecting the cross currents of air outside the cowl.

NEW APPLICATIONS FOR LETTERS PATENT.

MARCH 19.—5,666, G. Baylis, jun., Hanging and Fitting and Sliding Sashes for Windows.—5,695, R. Schleicher and G. Wersing, Water-closets.—5,709, D. Gray, Preventing Waste of Water.—5,710, W. Franklin, Water-closets.—5,723, Wenderson and E. Lacey, Garden Paths and Gravel Walks.—5,724, J. Webber and others, Surveying Instrument.

MARCH 20.—5,734, P. Manning, Hanging of Sliding Window-sashes.—5,738, A. Vogt, Door Checks.—5,743, M. Syer, Flushing Tank Valves.—5,748, J. Driver and H. Gledhill, Strainers for Gullies and Sewer Traps.—5,764, O. Tilley, Treading Surfaces for Floors, Steps, Pavements, &c., of Stone, Bricks, Tiles, Wood, &c.—5,792, R. Sayer, Sanitation.—5,793, W. Turner, Fire-places and Ranges.—5,795, C. Pegram and O. Parsons, Fireproof and other Metal Roofs.—5,810, J. Flower and R. Cousins, Scaffolding.

MARCH 21.—5,844, T. Robb, Block Flooring.—5,845, T. Robb, Window-sash Frames.—5,846, T. Robb, Securing the Coverings and Draining the Roofs of Buildings, &c.—5,868, W. Morris, Sewer Pipes.—5,869, G. Pennie and W. Cockburn, Water Cistern for Flush-out Closets.—5,872, T. Jenks and T. Hook, Fittings for Hanging and Fixing Casement Windows.

MARCH 22.—5,961, T. Shurmer, Sliding Windows.—5,980, G. Benwick, Appliance for Use when Sawing Mitres.—6,011, A. Edells, Mouldings, Cornices, &c.—6,017, G. Clinton-Baker, Hinges for Grates and Doors.—6,050, W. Allen, Flushing Cisterns.

MARCH 24.—6,104, C. Koster, Manufacturer of Veneers.

MARCH 27.—6,154, R. Bell, Heating and Ventilating and Cooling and Ventilating Public Buildings, Hospitals Houses, &c.—6,164, W. Bodin, Water Waste and Syphonic Discharge Closets and Latrines.—6,168, W. Horne, Construction of Fireproof Buildings, and Rendering existing Buildings Fireproof.—6,204, A. Lewis, Frames for Stained Glass Windows.

MARCH 28.—6,233, W. Duncan, Mantles for Incandescent Gas-burners.

MARCH 29.—6,296, J. Eggo, Window Fasteners.—6,329 J. Darbyshire, Screw-down Taps.—6,331, W. Prebble, Protecting Unburnt or Green Bricks against the Weather.

MARCH 30.—6,379, A. Hunter, Window Lock.—6,391, C. Monday, New Sash-window.—6,411, J. Welch, Ventilator and Skylight.—6,415, G. Farini, Window Fasteners.

MARCH 31.—6,467, D. Melvin and J. Crauford, Holdfast for the Secure Fixing of Sash-line or Cord used in Hanging Windows.—6,498, R. Stone and E. Earle, Kilns or Furnaces.

PROVISIONAL SPECIFICATIONS ACCEPTED.

2,370, W. James, Mouth Blow-pipe for the use of Gas-fitters, plumbers, &c.—3,458, W. Briggs, Flushing Apparatus for Water-closets.—3,608, H. Johnson, Exhaust Ventilators.—3,785, A. Ransom, Cowl for Preventing Down Draught, Excluding Wind and Rain, and Creating an Upward Current of Air in Chimneys, Drain Ventilators, Rooms, &c.—3,802, R. Ames and L. Crosta, Jointing Drain and Sewer Pipes.—3,864, C. Bonsey, Dies of Brick and Tile-Making Machines.—3,970, L. Shepherd, Wood Screws.—4,095, H. Cleaver, Mortise Locks.—4,309, G. Anderson, Stone-Dressing Machinery.—4,311, J. Morris, Whitewash Brushes.—4,615, W. Flavell, Preventing the Freezing and Bursting of Water-pipes.—4,766, E. Francis, Reversible Safety Window.—2,563, W. Barrette, Wall-paper Edge Cutter and Border combined.—3,703, G. Brown, Draught Excluders.—3,885, A. Wynn, Air Bricks.—4,173, W. Cook, Ventilating Shafts for Sewers, &c.—4,322, R. Holt, Siphon-flushing Cisterns for Water-closets, &c.—4,403, J. Clegg and G. Parkinson, Doing away with Cords and weights in Sashes.—4,503, S. Meyer, Water-pipes.—4,530, J. Chadwick and E. Preston, Ventilating Appliances for Sewers.—4,538, J. Hall, Lime-kilns.—4,643, E. Cotton, Ventilation of Water-closet Pans whilst in use.—4,670, S. Holgate and L. Whittaker, Kilns for Drying and Burning Bricks, &c.—5,133, W. Wilding, Carpenters' Gauges, &c.—5,137, E. Benard, Cements.—5,208, J. Munday, Flushing Cisterns.—5,395, A. Walker, Staircase and other Steps, and in Pavements, Floors, &c.

COMPLETE SPECIFICATIONS ACCEPTED.

(Open to Opposition for Two Months.)

9,351, J. Hussey and T. Diplock, Siphon Cistern.—10,045, T. Banks, Fireproof Framing for Partition and other Walls.—10,113, W. Bartholomew, Locks for Water-closet Doors, &c.—10,137, F. Willett, Temporary Supports for Tunnels, Sewers, &c.—11,343, C. Oaks, Intercepting Sewer-Trap with Portable Frame and Grating.—1,334, W. Brown, Safety Wedge Cap for Securing Tools to Handles, &c.—7,234, R. Norris, Brick-moulding Machinery.—9,960, J. Shewell, Channelled Flooring for Bridges and other Structures.—10,034, E. Poppe, Closets.—10,044, J. Banks, Fireproof Floors, Ceilings, &c., partly applicable to other forms of Floors, Ceilings, and Partitions.—11,095, W. Taylor, Ornamenting Wooden Surfaces.—2,839, T. Brown, Raising, Lowering, Balancing, and Retaining in position the Sashes of Sliding Windows, and in means for Locking and Securing the same.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

APRIL 2.—By *J. Baker:* 57, Pembridge-rd., Bayswater, u.t. 56 yrs., g.r. 10*l.*, r. 63*l.*, 600*l.*; 62, Lisson-grove, Marylebone, u.t. 46 yrs., g.r. 9*l.*, r. 50*l.*, 525*l.*; 64, Lisson-grove, u.t. 46 yrs., g.r. 9*l.*, r. 55*l.*, 550*l.*—By *Fleuret, Sons & Adams:* A profit rental of 40*l.*, Wells-rd., Sydenham, with reversion, u.t. 32 yrs., 950*l.*

APRIL 3.—By *Ellis & Son:* 78, Upper Thames-st., City of London, f.; and a warehouse in Brick Hill Lane, u.t. 13 yrs., g.r. 150*l.*, 6,000*l.*—By *Weston & Son:* 48, Millbrook-rd., Brixton, u.t. 28 yrs., g.r. 4*l.* 4*s.*, r. 28*l.*, 270*l.*—By *T. J. Potter:* 169, Ferndale-rd., Brixton, u.t. 56 yrs., g.r. 6*l.*, r. 30*l.*, 290*l.*; "Barclay Villa," Fraser-rd., Leyton, f., 530*l.*—By *Eastman Bros.:* 1 and 2, Houghton Villas, Sydenham, f., r. 62*l.*, 760*l.*—By *P. Hodson:* 62 and 64, Leicester-rd., Finchley, u.t. 97 yrs., g.r. 12*l.*, r. 60*l.*, 525*l.*; 66 and 68, Leicester-rd., u.t. 98 yrs., g.r. 12*l.*, r. 64*l.*, 530*l.*; 18 and 20, Sydney-rd., Wood Green, u.t. 96 yrs., g.r. 8*l.* 8*s.*, r. 50*l.* 16*s.*, 300*l.*; a plot of f. land, Colney Hatch Lane, Muswell Hill, 350*l.*—By *Holland & Andrews:* 6, Smith-st., Chelsea, f., r. 48*l.*, 800*l.*

APRIL 4.—By *Pomfret & Rosenberg:* "The Bishop's Down Grove Hydropathic Estate," Tunbridge Wells, containing 30 acres, f. (including mortgage), 83,000*l.*—By *Cane & Co.:* 6 and 8, Hindman's-rd., Dulwich, f., r. 56*l.*, 550*l.*—By *Beard & Son:* F.g.r. of 30*l.*, Baker-rd., Hardesden, reversion in 96 yrs., 703*l.*; an income of 100*l.* per annum, Donaldson-bldgs., Tottenham Court-rd., f., 2,025*l.*; l.g.r. of 18*l.*, Queen's-cres., Kentish Town, u.t. 32 yrs., 393*l.*; l.g.r. of 80*l.*, Wellesley-rd., u.t. 32 yrs., 1,590*l.*; l.g.r. of 25*l.*, Queen's-cres., u.t. 32 yrs., 520*l.*; l.g.r. of 144*l.* 10*s.*, Wellesley-rd., u.t. 52 yrs., 2,820*l.*; l.g.r. of 50*l.* 8*s.*, Grafton-ter., u.t. 52 yrs., 960*l.*; l.g.r. of 42*l.* Grafton-ter., u.t. 52 yrs., g.r. 6*l.*, 670*l.*; f.g.r. of 42*l.*, Wellesley-rd., reversion in 72 yrs., 1,050*l.*; f.g.r. of 6*l.*

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

COMPETITIONS.

Nature of Work.	By whom Advertised.	Premiums.	Designs to be delivered.
*Cricket Pavilion	Bedford Corp.	10l. 10s.	No date
*Infectious Diseases Hospital	Hudderafield Corp.	—. .	do.
*Bowerham Board Schools	Lancaster Sch. Bd.	.	do.
*Workhouse Infirmary	King's Norton Union	50l. 30l. 20l.	do.

CONTRACTS.

Nature of Work or Materials.	By whom Required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.
*Public Urinals	East Ham Local Board	W. H. Savage	April 18
Whinstone Road Metal	Alnwick and Canongate Local Board	G. Wilson	April 17
Forming, Kerbing, &c. Sedgley-road, Littleworth	Coseley Local Board	C. W. Shackleton	do.
School Buildings, National Schools, Horsforth, Leeds		T. H. & F. Healey	do.
Stable, &c. James-street, Barnsley		H. Crawshaw	do.
Electric Light Station, Torpichen-street	Edinburgh Corp.	Official	do.
*Surface Water Drainage	Bromley Local Board	do.	do.
*Underground Conveniences	Southend-on-Sea Corp.	C. T. Copley	April 18
Pipe Sewer, Pemberton, near Wigan		Heaton & Ralph	do.
Deepening River Ythan, Auchterless, Aberdeen		Walker & Duncan	do.
Entrance Gates, &c. (Contract No. 16), Hanley, Staffs		Thos. H. Mawson	do.
Farmhouse, Blaekford, Carlisle		G. H. Dixon	do.
Labourers' Cottages, &c.	Balrothery (Ireland) Union	C. M. Tuite	do.
Twenty-two Cottages, Ystrad Rhondda, Glam.	Partridge Buildg. Club		do.
House and Shop, Tong-street, Bradford		Fred. Moore	April 19
House, Shop, Stable, &c. Newcastle-on-Tyne	Jno. Swinburne		do.
Additions, &c. to Schools, Aberaman	Aberdare School Board	T. Roderick	do.
Shop and House, Great Broughton	W. Lister		do.
*Erection of Customs House	Ramsgate Corporation	W. A. Valon	do.
*Erection of Harbour Master's House	do.	do.	do.
Extensions to Premises, Clifton-road, Weston-super-Mare	Bristol Hospital	Official	do.
Bridge Work, Trafford Bridge	Salford Corporation	do.	April 20
Ten Houses, Lowercroft, Walshaw, Bury, Lancs.	Bury District Co-op. Provision Soc.		do.
Road Metal	Howden (Yorks) Highway Board	J. Anderson	do.
Six Cottages, Nelson-street, Maryport, Cumberland	J. A. Anderson	C. Eaglesfield	do.
*New Main Sewers	Bournemouth Council	F. W. Lacey	do.
Limestone Road Metal, Tredegar, Mon. (4,000 tons)	Bedwellty Local Board	J. H. Lewis	April 21
Hospital, Sunderland-road	Durham, U.S.A.	Mr. Coldwell	do.
Additions to Asylums, Hatton, near Warwick	Visiting Committee	E. Mansell	do.
Sewerage Works	Tarporley Local Board	H. Bancroft	do.
Drainage (large contract), Alverthorpe	Wakefield U.R.S.A.	F. Massie	do.
Re-building Saddle Inn, Halifax		Jackson & Fox	do.
Additions to Colcot Arms Inn, Merthyr Dovan, near Barry	Hancock & Co.	Geo. Thomas	do.
Pavilion Extension, Penarth, Cardiff	Glamorganshire Golf Club Committee	R. Pickwell	do.
Passenger Station, Cymmer	Rhondda and Swansea Bay Railway Co.	Mr. Yockney	do.
Alterations to Schools, &c. School-street, Accrington		Mr. Ross	do
Extension of Store Buildings, Belfast	G. N. R. Co. (Ireland)	Official	do.
Additions to Jumples House, Ovenden, Halifax		Petty & Ives	April 23
Annexe, Ilkley Wells House, Leeds		Jno. Kelly	do.

CONTRACTS—*Continued.*

Nature of Work or Materials.	By whom Required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.
Paving, Forming, &c. Darwen and other Streets	Blackburn Corp.	J. B. McCallum	April 23
Sewerage Works	Castleton-by-Rochdale Local Board	Jas. Diggle	do.
Purification Works, Heapey, Manchester	Rylands & Son	Lomax & Lomax	do.
School Buildings, Worsborough Dale (Yorks)	Worsborough Sch. Bd.	Senior & Clegg	do.
Street Works, Bootham-street, &c.	Blackburn Corporation	J. B. McCallum	do.
Store Buildings, Fawcett-street, &c.	Eccleshall Indus. and Prov. Soc.	Jas. Hall	do.
*Making-up Roads	Tottenham Loc. Board	P. E. Murphy	April 24
*York Paving Works	do.	do.	do.
*Band Stand	Borough of West Ham	L. Angell	do.
*Fire Engines	Willesden Loc. Bd.	O. Claude Robson	do.
Residence at Schools, Pontardawe	Llanguicke School Bd.	Official	do.
*Making-up Roads	Lewisham Bd. of Wks.	do.	do.
*Sewerage Works	Burton-upon-Trent Corp.	do.	do.
Vagrant Wards at Workhouse	Bangor and Beaumaris Union	do.	do.
*Paving Road	Fulham Vestry	J. P. Norrington	April 25
*Sewage Disposal Works	Worthing Corp.	James Mansergh	do.
*Sewerage Works	Hertford Corp.	T. R. Dickinson	April 26
Surveyor's Materials	South Shields Corp.	M. Hall	do.
*Technical Schools	Southend-on-Sea Corp.	W. Y. Hobbis	do.
Sewerage Works, Ton-y-pandy	Ystradyfodwg Loc. Bd.	W. J. Jones	do.
Granite Road Metal (1,240 yards)	Ashford Loc. Bd.	W. Terrill	April 27
*Boundary Walls and Fencing	Wanstead School Bd.	John T. Bressey	do.
*Sewerage Works	Hendon Loc. Bd.	S. S. Grimley	April 30
Borehole, Gin Clough, Ralnow	Bollington Loc. Bd.	W. H. Radford	do.
*Supply of Materials	W. Fairley	W. Fairley	do.
Reconstructing two Bridges, and Making New Bridge, Reading	G.W.Ry. Co.	Official	May 1
*Water works	Marlborough T. C.	do.	do.
Public Baths, Upperthorpe	Sheffield Corp.	C. F. Wike	May 2
*Public Baths Upperthorpe	Sheffield T. C.	do.	do.
*Sea Wall and Esplanade	Bognor Loc. Bd.	W. L. Barrett	May 4
Water-pipe Laying across River Endrick, &c.	Glasgow Corp.	Mr. Gale	May 5
*Pupil Teacher Centre, Alterations, &c.	West Ham Sch. Bd.	Newman & Jaques	May 8
Nine Houses, Smith-street, Hanley, Staffs		R. Jones	No date
Addition to Railway Hotel, Kendal		J. Binfley	do.
*School Buildings, Hounslow	Isleworth Sch. Bd.	A. Pope	do.
Granite Road Metal (1,400 tons)	Chelmsford T. C.	G. H. Sasse	do.
Two Houses, Manston, near Leeds		P. Robinson	do.
Six Houses Ashton New-road, Clayton, Lancs.	J. Hannett		do.
Residence, Harlow Hill, near Harrogate	Wm. Bartram	H. E. & A. Bown	do.
Business Premises, &c. Priestpopple, Hexham	E. S. Lee	Marshall & Dick	do.
Pavilion, Methley, Lancs.	Wm. Coombes		do.
Five Cottages, Star-lane, Peterborough	Mr. Baker	J. G. Stallebrass	do.
Two Dwelling-houses, Church-street, Newton Heath, Lancs.	Oddfellows Lodge	T. Cook	do.
Alterations, &c. The Grapes, Oxford-street, Southampton	Sir F. Perkins	Mitchell, Son, & Co.	do.
*Water Supply Works	Carlow Town Comrs.	H. V. White	do.
*Rebuilding Co-operative Stores, near Chesterfield		Cole A. Adams	do.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Applications to be in.
*Assistant Indoor Manager	LondonCountyCouncil	250l.	April 19
*Engineering Assistant	Plymouth Corp.	120l.	April 20
*General Assistant	do.	100l.	do.
*Private Street Works Assistant	do.	100l.	do.
*Building Inspector	Leyton Local Board	150l.	April 30

Those marked with an Asterisk (*) are advertised in this number. ***Competitions, p. iv. Contracts, pp. iv., vi., viii. and ix. Public Appointments, pp. xx. and xxiii.***

Spencer-rd., ditto in 74 yrs., 155*l.*; f.g.r. of 15*l.*, Sumner-rd., Croydon, ditto in 58 yrs., 450*l.*; f.g.r. of 12*l.*, Bangor-st., Notting Hill, ditto in 72 yrs., 205*l.*; f.g.r. of 24*l.*, ditto in 73 yrs., 415*l.*; f.g.r. of 14*l.*, ditto in 72 yrs., 250*l.*; f.g.r. of 12*l.*, ditto in 73 yrs., 220*l.*

APRIL 5.—By *A. Richards*: "Roxford House," High-rd., Ponder's End, f., 780*l.*—By *Stimson & Sons*: 42, 44, and 46, Chapel-rd., Norwood; and 1 to 9, Curnick-lane, f., 3,020*l.*; f.g.r. of 10*l.*, Eastfield-st., Limehouse, reversion in 29 yrs., 170*l.*; 22 to 25, Drysdale-rd., Lewisham, u.t. 58 yrs., g.r. 12*l.*, 660*l.*; 27 to 39 (odd), Chadwick-rd., Peckham, f., r. 182*l.*, 2,230*l.*; 8, Bermondsey-sq., Bermondsey, f., 400*l.*; 132 to 139, Prince's-rd., Kennington, u.t. 41 yrs., g.r. 135*l.*, r. 320*l.*, 300*l.*; 161, 163, and 165, Boyson-rd., Walworth, u.t. 58 yrs., g.r. 18*l.*, 715*l.*; 3, 5, and 7, Rutland-rd., Catford, f., 285*l.*; 14, Homley-rd., u.t. 76 yrs., g.r. 10s., 320*l.*; 11, The Parade, Sydenham, f., 420*l.*—By *Newton & Co.*: 26, 28, and 30, Legard-rd., Highbury, u.t. 88 yrs., g.r. 18*l.*, r. 80*l.*, 645*l.*; 10, Highbury Quadrant, u.t. 56 yrs., g.r. 17*l.*, 675*l.*; 55, Arlingford-rd., Brixton, u.t. 81 yrs., g.r. 8*l.* 10s., r. 40*l.*, 275*l.*; 187, King's-rd., Camden Town, u.t. 48 yrs., g.r. 11*l.*, r. 50*l.*, 350*l.*; 33, Alexandra-rd., Hornsey, u.t. 83 yrs., g.r. 7*l.* 10s., r. 32*l.*, 300*l.*—By *Blake & Dannatt*: 9 and 11, Ladywell-pk., Lewisham, u.t. 44 yrs., g.r. 10*l.* 10s., 185*l.*; 22, Rumsey-rd., Brixton, u.t. 87 yrs., g.r. 8*l.* 5s., 400*l.*

APRIL 6.—By *R. Reid*: 41, Wardour-st., Soho, f., r. 200*l.*, 3,000*l.*; No. 19, Regent-st., an i.g.r. of 83*l.*, u.t. 23 yrs., g.r. 6*l.* 9s. 6d., 1,170*l.*—By *Green & Son*: 35, Kempshott-rd., Streatham, u.t. 8 yrs., g.r. 11*l.*, r. 55*l.*, 460*l.*; 6 and 7, Dunlop-pl., Bermondsey, f., 320*l.*; 59, 61 and 63, Napier-rd., Croydon, u.t. 83 yrs., g.r. 10*l.*, 190*l.*; 1 to 5, Totton-rd., Thornton Heath, u.t. 88 yrs., g.r. 18*l.* 15s., 370*l.*; f.g.r. of 14*l.* 14s., Beachwood-rd., Caterham, reversion in 82 yrs., 335*l.*; "Woolmer Lodge," Banstead, Surrey, and o a. 3 r. 10 p., f., r. 83*l.* 10s., 1,100*l.*; f. cottage and enclosure of garden land, 400*l.*; the residence called "Kethlen," f., 460*l.*; a leasehold house, Mill-st., Redhill, u.t. 76 yrs.. g.r. 6*l.*, 80*l.*; three leasehold houses, Garibaldi-rd., u.t. 73 yrs., g.r. 15*l.*, 345*l.*; 142, Trafalgar-rd., Greenwich, u.t. 55 yrs., g.r. 6*l.*, r. 90*l.*, 1,300*l.*—By *L. Farmer*: 60 and 62, Fordwych-rd., Hampstead, u.t. 94 yrs., g.r. 20*l.*, r. 140*l.*, 1,300*l.*; 119, Abbey-rd', St. John's Wood, u.t. 61 yrs., g.r. 9*l.*, 430*l.*; "St. Andrew's Lodge," Dean-rd., Willesden, u.t. 86 yrs., g.r. 10*l.*, r. 65*l.*, 570*l.*; "The Elms," u.t. 86 yrs., g.r. 9*l.*, r. 55*l.*, 475*l.*; 35 and 37, Gascony-av., Hampstead, u.t. 87 yrs., g.r. 21*l.*, r. 80*l.*, 525*l.*; 43, 45, and 47, Gascony-av., u.t. 87 yrs., g.r. 31*l.* 10s., r. 120*l.*, 795*l.*; 13, Steward-st., Spitalfields, ., r. 56*l.*, 700*l.*; 18, Elm-grove, Peckham, u.t. 34 yrs., g.r. 7*l.*, r. 45*l.*, 300*l.*—By *F. J. Bisley & Sons*: 69 and 71, Albion-st., Rotherhithe, f., 465*l.*; 11 and 12, Moreton-ter., and 28, Prospect-st., u.t. 49 yrs., g.r. 16*l.*, 210*l.*—By *Harman Bros.*: 195, Amhurst-rd., Hackney, u.t. 65 yrs., g.r. 10*l.*, 780*l.*; 12 and 14, Grayling-rd., Stoke Newington, u.t. 64 yrs., g.r. 14*l.*, 750*l.*; 30, Cazenove-rd., u.t. 83 yrs., g.r. 9*l.* 9s., 500*l.*—By *W. B. Hallett*: "Frenches," Birdhurst-rd., Croydon, with stabling, f., 2,000*l.*; 2, Mervyn-rd., Brixton, u.t. 79 yrs., g.r. 10*l.*, 455*l.*; "Springfield," South Canonbury-pk., Canonbury, u.t. 42 yrs., g.r. 7*l.*, 890*l.*; 207, 207A, 207B, 209, 209A, 209B, 211, 211B, 213A, Hornsey-rd., Holloway, u.t. 96 yrs., g.r. 55*l.* 16s., 4,105*l.*; 1 to 13, Pleasant Passage; and 4 to 12 (even), Hornsey-rd., u.t. 16 yrs., g.r. 60*l.*, 125*l.*

[*Contractions used in these Lists.*—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e.r. for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street.; rd. for road; sq. for square; pl. for place; ter. for terrace cres. for crescent; yd. for yard, &c.]

PRICES CURRENT OF MATERIALS.

TIMBER.

Greenheart, B.G.	ton	9/0/0 0/0/0
Teak, E.I.	load	9/10/0 26/0/0
Sequoia, U.S.ft.cu		2/3 2/6
Ash, Canada	load	2/15/0 4/0/0
Birch, do.		2/5/0 3 5/0
Elm, do.		3/10/0 4/15/0
Fir, Dantsic, &c.		1/5/0 2/10/0
Oak, do.		2/10/0 4/15/0
Canada		5/10/0 7/0/0
Pine, Canada red		2/10/0 3/0/0
Do. Yellow		2/10/0 4/15/0
Lath, Dantsic, fath		4/10/0 5/10/0
St. Petersburg		5/0/0 6/10/0
Wainscot, Rigs, &c., log		2/5/0 4/10/0
Odessa, crown		2/5/0 4/10/0
Deals, Finland and & 1st std	100	8/0/0 10/10/0
Do. 4th & 3rd		7/10/0 8/0/0
Do. Riga		7/10/0 9/0/0
St. Petersburg, 1st yellow		10/0/0 13/10/0
Do. 2nd yellow		8/0/0 9/0/0
Do. white		8/10/0 11/0/0
Swedish		8/10/0 16/10/0
White Sea		8/0/0 16/10/0
Canada, Pine 1st		20/10/0 29/10/0
Do. do. 2nd		17/0/0 28/10/0
Do. do. 3rd, &c.		7/10/0 10/5/0
Do. Spruce, 1st		9/0/0 11/0/0
Do. do. 3rd & 2nd		6/10/0 9/10/0
New Brunswick		6/0/0 7/5/0
Battens, all kinds		9/0/0 25/0/0
Flooring boards, sq., 1 in. prep.		
1st		0/10/0 0/15/0
Do. 2nd		0/7/6 0/12/6
Other qualities—		0/5/0 0/7/0
Cedar, Cuba	ft.	/3½ /4½
Honduras, &c.		/3½ /4½
Mahogany, Cuba		/3½ /6
St. Domingo, cargo av.		/3 2/6
Mexican do. do.		/3 /4
Tobasco do. do.		/3½ /6
Honduras do.		/3½ /5½
Box, Turkey	ton	4/0/0 13/0/0
Rose, Rio		8/0/0 18/0/0
Bahia		7/0/0 17/0/0
Satin, St. Domingo		0/0/5 0/1/2

TIMBER (*continued*).

Satin, Porto Rico		0/0/6 0/1/6
Walnut, Italian		0/0/3½ 0/0/7

METALS.

Iron—Pig, in Scotland	ton	2/2/3½ 0/0/0
Bar, Welsh, in London		5/17/6 6/0/0
Do. do. at works in Wales		5/7/6 5/10/0
Do. Staffordshire, in London		6/0/0 6/10/0
COPPER—British cake and ingot		42/15/0 43/5/0
Best selected		43/15/0 44/5/0
Sheets, strong		52/0/0 0/0/0
Chili. bars		40/15/0 41/0/0
YELLOW METAL	lb	0/0/4½ 0/0/5
LEAD—Pig, Spanish	ton	9/5/0 9/6/3
English com. brands		9/6/3 9/7/9
Sheet, English, 6 lbs. per sq. ft. and upwards		11/0/0 0/0/0
Pipe		11/10/0 0/0/0
ZINC—English sheet	ton	18/10/0 19/0/0
Vieille Montagne		20/0/0 0/0/0
TIN—Straits		70/0/0 70/10/0
Australian		70/10/0 71/0/0
English Ingots		74/10/0 75/0/0
Banca		74/0/0 75/0/0
Billiton		69/10/0 70/0/0

OILS.

Linseed	ton	19/15/0 20/0/0
Cocoanut, Cochin		28/0/0 0/0/0
Do. Ceylon		23/10/0 0/0/0
Palm, Lagos		23 10/0 0/0/0
Rapeseed, English pale		21/15/0 22/0/0
Do. brown		20/0/0 20/5/0
Cottonseed ref.		20/0/0 21/0/0
Olelne		22/0/0 24/0/0
Lubricating, U.S.		4/0/0 5/0/0
Do. refined		5/0/0 12/0/0
TAR—Stockholm barrel		0/22/0 0/27/6
Archangel		0/11/0 0/0/0

TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 10 *a.m. on Thursdays.*]

BANSTEAD.—For erecting a band-room at the Kensington and Chelsea Schools, Banstead, Surrey, for the Managers of the Kensington & Chelsea School District. Messrs. A. & C. Harston, architects, 15, Leadenhall-street, E.C.:—

W. J. Wells	£1,085	England & Gale	£891
Leslie & Co.	962	Huntley Bros.	740
R. Peters	890	J. W. Trappitt, Beddington*	714
J. B. Potter	850		

* Accepted.

BATH.—For widening a portion of Fox Hill-lane, for the Urban Sanitary Authority. Mr. Chas. R. Fortune, City Surveyor, Terrace Walks, Bath:—

A. Pritchard	£175 0 0	S. Ambrose	£145 0 0
A. Hancock	173 5 6	J. T. Welch*	120 0 0

* Accepted.
[All of Bath.]

BIRKENHEAD.—For the erection of boundary wall and gates, retaining wall, &c., South End refuse destructor, for the Corporation. Mr. Charles Brownridge, C.E., Borough Engineer, Town Hall, Birkenhead:—

Manlove Alliott & Co. Limited, Nottingham £219 15 4

BISHOP'S STORTFORD.—For the erection of a swimming-bath, for the East of England Nonconformist School Company, Limited. Mr. Jno. Slater, 46, Berners-street, London W., and Mr. H. G. Ibberson, 5, Adelaide-place, E.C., joint architects :—

T. B. Pitcher	£2,364 0 0	J. P. White	£2,063 10 0
C. North	2,313 10 0	Bell & Sons	2,016 0 0
J. H. Staines	2,237 5 0	A. Brown	1,998 0 0
C. Ansell	2,185 0 0	H. Champness	1,979 9 6
T. Fuller	2,075 0 0	J. L. Glasscock & Son	1,932 0 0
E. West	2,070 0 0		

BOSTON (Lincs.).—For the erection of a cottage in Irby-street, Boston, exclusive of grates, mantels, door and window furniture, for Mr. H. Bellamy. Mr. Jas. Rowell, architect, Boston :—

C. Jessop	£220	H. Hinds	£200
J. Hill & Son	210	Johnson Taylor (accepted)	190
H. W. Parker	210	[All of Boston.]	

BOSTON (Lincs.).—Accepted for the erection of a house on the Brothertoft-road, Boston, exclusive of grates, mantels, door and window furniture, for Mr. J. Vinters. Mr. Jas. Rowell, architect, Boston :—

Bricklayer, Mason, Slater, Plasterer, Carpenter, and Joiner.—H. W. Parker, Boston £397 15 0
Plumber, Painter, and Glazier.—A. E. Cox, Boston 34 0 0

BOURNEMOUTH.—For the erection of stables, Colebrook Grange :—

T. Hoare & Son	£775	Jenkins & Son	£689
George & Harding	750	W. Hoare (accepted)	670

BOURNEMOUTH.—For the construction of roads and sewers, for the further development of the Branksome Tower Estate. Messrs. H. E. Hawker & Mitchell, surveyors, St. Peter's Chambers, Bournemouth :—

Joseph White	£2,928	S. Saunders	£1,767
H. Brixey	2,434	J. Budden	1,760
C. Stickland	2,063	W. Hoare	1,540
J. Troke	1,996	W. H. Saunders & Co., Bournemouth*	1,253
Playfair & Toole	1,861		

*Accepted.

BOURNEMOUTH.—For the erection of a house, Brank some Park Estate. Messrs. H. E. Hawker & Mitchell, architects :—

T. Hoare & Son	£1,392	Jones & Son	£1,275
George & Harding	1,385	W. Hoare	1,255
Entwisle & Cox	1,320	Jenkins & Sons*	1,247

*Accepted.

BOURNEMOUTH.—For the erection of Branksome Junction Hotel. Messrs. H. E. Hawker & Mitchell, architects :—
W. Jones & Son (accepted) at schedule.

BYFLEET (Surrey).—For sanitary and structural alterations and decorations, West Hall, for Mr. F. C. Stoop. Mr. W. H. Collbran, architect, 94, Gloucester-road, S.W. :—

Rawlins Bros., South Kensington	£2,850	0	0
" " New Water Main	96	0	0
Jno. Anderson,* South Kensington	2,843	0	0
" New Water Main	68	0	0
Holdstock West Brompton	1,960	0	0
" " New Water Main†	110	0	0

* Accepted.
† Withdrawn.

CAERPHILLY. — For twelve cottages, Caerphilly, for the Caerphilly Building Club. Mr. J. H. Phillips, architect, Cardiff :—

E. C. Newby & Co.	£2,802	Isaac Williams	£1,939 4
Benj. Evans	2,100 0	Thomas Rossiter	1,920 0
Williams & Thomas	1,980 0	F. Small	1,872 0
Robert Owen	1,975 0	Wm. Morgan, Caerphilly*	1,860 0
Wm. Davis	1,944 0	Thomas Rees	1,824 0

* Accepted.

COLCHESTER.—For the erection of an iron Mission Hall in St. Botolph's Parish, Colchester, for the vicar (the Rev. J. R. Corbett) and others. Mr. Chas. E. Butcher, architect, 3, Queen-street, Colchester :—

	Mission Hall.	Fence.
A. Diss	£480	£44
C. E. Orfeur	418	47
S. Start	414	44
H. Cook*	412	—
E. Dupont	400	50
G. Dobson	389	49
Everett & Son	383	47
T. J. Ward	380	45
W. Chambers (late)	358	37
F. G. Bloice	349	40
Wrinch and Sons, Ipswich†	330	—
G. Bowles, Colchester (accepted for Hall only)	326	34

* Fence included.
† Not including foundations for Hall or plumber's work, &c., for water-closet and water supply.

CORK.—For the erection of shop and residence, Buttevant. Mr. Arthur Hill, architect, 22, St. George's-street, Cork :—

D. Credon	£878	D. Duggan	£775
D. Callaghan	825	E. Thornton	748 15
Thomas O'Mahoney	823	D. Hayes	712 14
T. A. Walsh	779		

DARENTH.—For painters' work at the Gore Farm Hospital, near Dartford, for the Metropolitan Asylums Board. Messrs. A. & C. Harston, architects, 15, Leadenhall-street, E.C. :—

G. Foxley	£790	M. Batchelor	£484
W. Tuffee	627	Vigor & Co., King-street, Poplar*	437
W. Hadlow	588		
Lilly & Lilly	494		

*Accepted.

DARLASTON.—For new infant school, "All Saints," Darlaston. Mr. H. E. Farmer, architect, Darlaston. Quantities by architect :—

F. Jones	£560	France & Tranter	£448 10
G. Williamson	537	W. Lees	433 10
Malin & Son	499	Hammonds Bros., Darlaston*	390 10
T. Tildesley	480		
S. Teece	455		

*Accepted.

DARLASTON.—For the erection of two houses, Darlaston. Mr. H. E. Farmer, architect, Darlaston. Quantities by architect :—

Malin & Son	£619	M. Huckison	£525
T. Tildesley	599	France & Tranter	520 10
Hammonds Bros.	550	S. Teece, Darlaston*	493

*Accepted.

DUNFERMLINE.—For causewaying a number of streets in the burgh, for the Commissioners. Mr. William Chisholm, Borough Surveyor :—
James Leith, 35, Union-street, Aberdeen* £2,721 18 4
* Not including Whinstone Trinket stones which are to be put in at 1s. 2d. per lineal foot.

EGREMONT (Cumberland).—Accepted for the erection of stabling, coach-house, &c., Bookwell, for Mr. Jno. Brownrigg. Mr. John Eilbeck, architect, Gill Cottage, near Egremont :—

Mason.—James Smith, Egremont	£110 0 0
Joiner.—George Wilson, Egremont	66 9 5
Slater.—R. & D. Pearson, Cleaton Moor	25 5 0
Painter.—J. S. Long, Egremont	1 17 6

HANDSWORTH.—For alterations and additions to St. James' National Schools, Handsworth. Mr. J. R. Nichols, architect, Birmingham. Quantities by Mr. Francis Bristow, surveyor, Birmingham :—

C. A. Horton	£389	J. Dallow	£340
J. Archer	379	J. Light	336
W. J. Bennett	368	Lidzey & Evans	332
J. Webb	365	W. H. Hancox	329
George Squires	350	H. Dorse & Co.	320
George Trentham	346	George Webb, Handsworth (accepted)	281
Walton Bros.	344		

HAYES (Kent).—For the erection of two cottages at Hayes, Kent, for Mr. Martin R. Smith. Messrs. Kidner & Berry, architects, 23, Old Broad-street, London, E.C. :—

Arnaud & Son	£837	Crossley & Son	£799
D. Payne	800	S. J. Scott (accepted)	778

LANDRAKE (Cornwall).—For the erection of schoolmaster's house, for Sir Robert Geffery's Trustees. Mr. Daniel Ward, surveyor, 8, Courtenay-street, Plymouth. Quantities by surveyor :—

W. G. Goad	£620	0	W. V. Alford	£380	0
J. & H. Cousens	470	5	J. C. Fox & Son	375	0
T. H. Hawke	435	0	W. P. Petherick, Hatt, R.S.O., Cornwall*	360	10
W. Riddalls	426	0			
J. C. Churchward	424	0			
W. D. Curner & T. Richards	410	0			

*Accepted.

LEEDS.—For the construction of covered service reservoir, Middleton, for the Hunslet Union Rural Sanitary Authority. Mr. J. H. Rhodes, C.E., 92, Albion-street, Leeds :—

J. & T. Young	£2,303	0 0	Henry Wilson	£1,995	10 0
George Oakes	2,150	0 0	Matthew Arundel, East Ardsley, Wakefield*	1,828	0 2
Townsend, Watson, & Gates	2,100	0 0			
J. Akroyd & Son	2,049	0 0			

*Accepted.

LLANHARAN (Wales).—For altering and extending Bethlehem Chapel, for the Trustees of the Chapel. Mr. D. Davies, architect, Bryn Cottage, Brynsadler, Pontyclun, Glam. :—

Price & Maying	£845	10	0
J. & Ward David, Brynna Mill, Pencoed, Bridgend (accepted)	690	0	0
C. H. Cooksley	675	0	0

LLWYNPIA (Wales).—For the construction of 1,300 yds. pipe sewer, with manholes, &c., for the Ystradyfodwg Local Board. Mr. W. J. Jones, Surveyor, Local Board Offices, Pentre, R.S.O. (Glam.) :—

Evan Davies	£860	1	3	David Evans & Sons, Penygraig*	£645	0	0
Wm. Jones	669	10	9				
W. Chaplin	670	7	0				

*Accepted.)

LONDON.—For pewtering work and beer engines required at "The Fishing Smack," Coldharbour, Blackwall, for Messrs. Reid & Co. Mr. M. F. Saunders, architect :—

Heath	£113	H. & F. Warne*	£105

* Accepted.

LONDON.—For paving with powdered rock asphalte, footpaths, Mile End-road, for the Mile End Old Town Vestry. Mr. J. M. Knight, Surveyor, Vestry Hall, Bancroft-road, Mile End-road, London, E. :—

	s.	d.		s.	d.
W. Griffiths (Mastic)	4	6*	French Asphalte Co.	4	0†
Limmer Asphalte Paving Co.	4	3*	Brunswick Rock Asphalte Paving Co. (Mastic)	3	2*
Val de Travers	3	9*			

* Keep in repair three years.
† Keep in repair ten years.

LONDON.—For the erection of a mortuary at the back of the Vestry Hall, for the Mile End Old Town Vestry. Mr. J. M. Knight, Surveyor Vestry Hall, Bancroft-road, Mile End-road, London, E. :—

S. W. Hawkings	£1,319	0	London Amalgamated Co-operative Builders' Society	£992	18
C. L. Cole	1,298	0			
W. Lawrence	1,123	0	J. Holland, Leytonstone*	857	0

* Accepted.

LONDON.—For the erection of a block of almshouses in Burrell-street, Blackfriars-road, for the Trustees of the Edward's Charity. Mr. A. W. Tribe, architect, 31, Clapham-road, S.W. :—

Holloway Bros.	£1,871	Hoare & Son	£1,816
Peacock Bros.	1,830		

LONDON.—For alterations and additions to 42, Langham-street, Portland-place, W., for Mr. J. Wallis-Mason :—

Mackintosh	£668
E. Houghton & Son	617
R. Perkins	552

LONDON.—For alterations, &c., at 86, Rye-lane, S.E., for Messrs. Dansie Bros. :—

Richeson	£426	King & Son	£250
J. Ham	390	Tunbridge	200
Simpson & Cove	315		

LONDON.—For improvements at "The Fountain" public-house, St. George's-road, Southwark :—

Howell	£115	C. King	£76
Bedwell	105	Simpson & Cove (accepted)	69
Slatts	79	Dainton	65

LONDON.—For the supply of materials and execution of jobbing and measured works required for the sewers and drains within the district, for three years, for the Strand Board of Works :—

Killingback	10	per cent. above schedule.	
Mowlem & Co.	7½	"	"
John H. Newman	7½	"	"
J. H. Neave*	5	"	"

* Accepted.

LONDON.—For the execution of sundry repairs at the Sick Asylum, Cleveland-street, Fitzroy-square, W., for the Manager :—

Bower	£720	John H. Newman	£348
Allen	560	Dorrell	328
Davis	440	Bangs	233 15
White	384	Wall	229

LONDON.—For the execution of sanitary works and plumbing at the Westminster Workhouse, Poland-street, W. Quantities by Messrs. Waldram & Son, surveyors, 13, Buckingham-street, Strand, W.C. :—

G. Jennings	£1,030	Johnson & Manners	£895
Tabor & Hinchcliffe	989	J. Knight	888
Conolly & Co.	980	Finch & Co.	888
Bolding & Sons*	956	G. H. Tucker	873
N. Lidstone	952	H. Wall & Co.	857
Grover & Son	942	John Newman*	555
Johnson & Co., Ltd.	925	S. Polden	834
Wills & Sons	895	*Accepted.	

[Surveyor's estimate £928.]

LONDON.—For Bound's Green school and appurtenances, for the Tottenham School Board. Mr. E. H. Lingen Barker, architect, London and Hereford. Quantities by Messrs. D. Campbell & Son, 69, Finsbury-pavement, E.C. :—

T. J. Coxhead	£16,099	Stimpson & Co.	£15,400
Lansdown & Co.	15,987	E. Fuller	15,300
Grover & Son	15,877	C. Wall	14,880
B. E. Nightingale	15,793	R. & E. Evans	13,490
Balaam Bros.	15,531	J. Pocock (withdrawn)	10,974
S. & W. Pattinson	15,520		

LONDON.—For the provision of a cookery centre in connexion with the Collingwood-street School, Ratcliffe, and for other works, for the School Board for London. Mr. T. J. Bailey, Architect :—

		If brickwork be built in cement, add
W. Neil	£1,202	£25
H. Knight & Son	1,175	19
E. Lawrance & Son	1,088	18
W. Gregar & Son	1,070	20
Co-operative Builders, Limited	995	16
F. J. Coxhead, Leytonstone	934*	15*

*Recommended by the Works Committee for acceptance.

LONDON.—For sanitary and decorator's work at the Infirmary, Ladbrook Grove-road, W., for the Guardians of the Poor, St. Marylebone :—
N. Lidstone, Finsbury Park (accepted) £1,260 0 0

LONDON.—For erecting a medical superintendent's house at the Lewisham Union Infirmary, for the Guardians of the Lewisham Union. Messrs. A. & C. Harston, architects, 15, Leadenhall-street, E.C. :—

Leslie & Co.	£1,928	S. Frampton	£1,495
W. Johnson & Co.	1,574	Bastin & Tawnay	1,487
G. R. Story	1,510	Lawrence	1,464

LONDON.—For fitting up hot-water warming pipes in the old wards of the Western Hospital, Fulham, for the Metropolitan Asylums Board. Messrs. A. & C. Harston, architects, 15, Leadenhall-street, E.C. :—

Easton & Anderson, Ltd.	£752	J. F. Clarke & Sons, Moorgate-street, E.C. (accepted)	£640
J. & F. May	735	Jas. Gray (informal)	627

LONDON.—For the construction of sewers, &c., in various streets, for the St. Giles' District Board of Works. Mr. Geo. Wallace, Engineer, Board Offices, 197, High Holborn, London, W.C. :—

J. H. Newman	£3,795	Thos. Adams	£3,117
Neave & Son	3,494	C. W. Killingback & Co., Camden Town*	2,997
Wilkinson Bros.	3,455		

[Engineer's estimate, £2,992.]
*Accepted.

LONDON.—For the execution of road-works (wood-paving, &c.), Pembridge-road, Notting Hill, W., for the Vestry of St. Mary Abbotts, Kensington. Mr. Wm. Weaver, C.E., Surveyor, Town Hall, Kensington High-street, London, W. :—

	Per yard. s.	d.
Mowlem & Co.	12	0
J. Mears	12	0
Nowell & Robson	11	9
Brunswick Rock Co.	11	3
Acme Wood Paving Co.	11	0
G. Wimpey & Co.	10	6
Improved Wood Paving Co., 46, Queen Victoria-street, E.C. (accepted)	9	8

LONDON.—For the construction of road, sewer, and house-connexions on the Eukeston's and Kirkdale Estate, Clapham Common. Messrs. Lee & Pain, architects and surveyors, 63, Lincoln's Inn-fields, W.C. :—

J. Mowlem & Co.	£2,298	Wm. Hampton	£1,577
Wm. Neave & Son	1,897	Turtle and Appleton	1,488
W. R. Williams	1,687	George Neal*	1,267
C. W. Killingback & Co.	1,598		

*Accepted, subject to modification.

LONDON.—For new warehouse on Shad Thames and New-lane, for Messrs. Corry & Co. Mr. Abm. Silley, architect, Craven-street :—

Potter	£3,200	Macey	£2,874
Stephens, Bastow, & Co., Ltd.	2,998	Hatherley & Carr	2,547
Saber	2,879	Gregory	2,545

LUCKINGTON (Wilts.).—For the erection of school buildings, for the School Board. Mr. M. Lyndon Nicholls, C.E., Badminton :—

Wm. Chambers	£225	F. Brown	£162
Downing & Rudman	197	John B. Hudson, Yate*	130
S. & J. Cole	174	T. S. Ratcliffe	138 15

* Accepted.

LUDGVAN (Cornwall).—For rebuilding (1st section, walls, roofs, and partitions only) Commercial Hotel, Long Rock, Ludgvan, R.S.O. Mr. J. W. Trounson, architect, Penzance :—

Mason.

W. Miners	£399	0	0
J. Burnett	392	0	0
J. Fox	383	0	0
S. Nicholls	374	0	0
W. H. Hosking	372	0	0

Carpenter.

Joe James	£314	0	0
A. Chapman	309	0	0
J. Tucker	307	0	0
W. Rodda	296	0	0
T. Leggo	240	0	0
T. R. Glasson	235	0	0

MIRFIELD (Yorks.).—For the erection of business premises, South-street, Hopton, for the Lower Hopton Working Men's Club. Mr. Jno. Barker, architect, Town Hall, Mirfield :—

Masons.—William Oates, Nab-lane
Joiners.—Barker & Clough, Easthorpe
Plumber.—Walker Pearse, Stocks Bank
Plasterer.—Johnson & Son, Stocks Bank
Painter.—Henry Roberts, Knowle-road
} £580 0 0
[All of Mirfield.]

PENARTH.—For the extension of the outfall sewer for the Local Board. Mr. Edgar Ivor Evans, Surveyor, Local Board Offices, Penarth :—

William Chaplin & Co.	£920	17 6	John Mackay	£766	3 0
John W. Rodger	852	6 6	Batchelor & Snowdon, Bank Buildings, Cardiff*	682	0 0
T. Rees	836	0 0			

*Accepted.

PUDSEY.—For the execution of sewage works (Contract 1), for the Pudsey Local Board. Mr. Cass, Surveyor, Board Offices, Market-place, Pudsey :—
John Simpson, Hunslet-road, Leeds £2,224 13 5

RAMSEY (Hunts).—For the supply of 1,200 tons broken granite, and 300 tons of slag, for the Local Board. Mr. Leonard H. Greig, Surveyor :—

		Per ton. s.	d.	s.	d.	s.	d.	s.	d.
Groby Granite Co., Ltd., Groby Quarries, nr. Leicester*	Granite 1,000 tons	10	7	—	—	—	—		
	" 200 "	10	1	—	—	—	—		
Montague, Smith & Co.		11	6	—	—	—	—		
Alexander Beeby		10	7	11	1	10	5	10	8
Grimley & Son		10	7	11	1	10	5	10	8
Enderby & Storey Stanton Granite Co.		10	3	10	6	—	—	—	—
Griff Granite Co.		10	1	7	1	—	—	—	—
Ellis and Everard, Peterborough		11	0	11	6	10	0	10	6
H. Norwood Irye		10	0	10	6	—	—	—	—
Ireland & Knight		10	6	11	0	—	—	—	—
Ferguson & Starkey		10	3	—	—	—	—	—	—
Croft Granite Co.		10	0	10	2	—	—	—	—
Cliffe Hill Granite Co.		10	4	—	—	—	—	—	—
Alexander Beeby (slag)		6	7	—	—	—	—	—	—
Grimley & Son (slag)		6	11	—	—	—	—	—	—
Butlin & Son, Wellingborough † (slag)		6	6	—	—	—	—	—	—
Islip Iron Co. (slag)		7	0	—	—	—	—	—	—

* Accepted. † Accepted to extent of 250 tons.

RATHMINES (Co. Dublin).—For the supply of 1,000 yards of wrought-iron railings, gates, &c., for the Commissioners :—

Economic Fencing Co.	£1,440	0	Hill & Smith †	£924	0
Hill & Smith *	1,104	15	J. McGroughlin & Sons, Dublin ‡	860	0
J. Fagan & Sons	990	0			
Kennan & Sons	924	15			

* No. 1. † No. 2. ‡ Accepted.

SCUNTHORPE.—For the erection of the Scunthorpe Police Buildings :—

	Design A.			Design B.		
S. F. Halliday	£5,490	10	0	£5,674	6	0
Solden Hipwell	5,187	15	4	5,358	14	5
S. Sherwin	5,109	0	0	5,520	0	0
Jeffery & Son	5,060	18	6	5,305	7	2
S. & W. Pattinson	4,998	2	3	5,344	16	6
H. Kelsey & Son	4,851	7	8	5,085	17	7
H. Kelsey & Sons	4,806	9	0	5,020	19	6
Wright & Son, Lincoln	4,578	0	0	4,728	0	0

*Accepted.

ST. JUST (Cornwall).—For additions, &c. (first section) to school buildings, Pendeen, for the School Board. Mr. J. W. Trounson, architect, 27, Clarence-street, Penzance :—

Carpenter.

R. H. Roberts	£145 19 0
J. Rowe	98 0 0
T. Leggo	97 17 6
Jas. Roberts	82 0 0
F. Gibson & Sons	79 10 0
J. E. Hoskins, Drift Sancreed*	71 0 0

Mason.

T. Harry, North St. Just, R.S.O.*	83 0 0

* Accepted.

SHEFFIELD.—For the erection of dwelling-house, offices, &c., Darnall, for the Waverley Colliery Company. Mr. E. Winder, jun., architect, Wharf-street, Sheffield :—

J. Fidler	£655 0 0	John Eshelby	£560 0 0
J. Holmes	621 0 0	C. Chadwick	546 0 0
Fred. Foers	616 15 4	C. Green	537 18 0
Henry Sykes	608 17 0	Pinder Bros., Intake, Sheffield (accepted)	529 10 0
Stow & Aspland	591 5 6		
Edmondson	582 4 0		

SLEAFORD (Lincs.).—For the erection of a dwelling-house, for Mr. Wm. Clark. Mr. Wm. Newton, architect, Sleaford :—

Bools	£838 5 0
J. B. Newton, East Heckington, Boston*	215 10 0

* Accepted.

SLOUGH.—For the erection of two new houses for Mr. Charles West, Wellington-street, Slough. Mr. John George Carey, architect, Windsor :—

C. Simmons	£1,325	H. Burfoot	£715
H. D. Bowyer	890		

[All of Slough.]

SOUTHAMPTON.—For the erection of an engineering laboratory, Canal Walk, for the Council of the Hartley Institution. Mr. W. B. G. Bennett, Borough Engineer, Southampton :—

Dyer & Sons	£770	Playfair & Toole, Southampton (accepted)	£680
Roe & Grace	750		
F. Osman	720		

SOUTHAMPTON.—For the execution of private improvement works, Northumberland and four other roads, for the Corporation. Mr. W. B. G. Bennett, Borough Surveyor, Municipal Offices, Southampton :—

J. Porter	£1,598	Crook & Batten, Southampton*	£963
Roe & Grace	995		
F. Osman	966		

* Recommended for acceptance.

STRATFORD-ON-AVON.—Accepted for the supply of 900 tons road-metal, for the Town Council. Mr. Adam H. Campbell, C.E., Municipal Offices, Stratford-on-Avon :—

W. A. Judkins, Nuneaton	£0 7 0 per ton for 700 tons.
Currall & Lewis, Birmingham	0 6 11 per ton for 200 tons.

STRATFORD-ON-AVON.—Accepted for Infectious Diseases Hospital, Stratford-on-Avon. Mr. Adam H. Campbell, C.E., architect :—

Buildings only.—Geo. Whateley, Stratford-on-Avon	£3,695 11 0
Disinfector.—Manlove, Alliot, & Co., Nottingham	250 0 0
Oak Fencing.—W. D. Rudder & Son, Birmingham	134 11 0
Drying Apparatus.—Bradford & Co., Salford	25 0 0

SWANSEA.—For the erection and completion of villa residence Ystatyfera, Swansea Valley. Messrs. Wilson & Moxham, architects, Swansea :—

Dd. Jenkins	£1,260	W. Knight	£947
Thomas Watkins & Co.	1,150	Dd. Rees, Ystatyfera, Swansea (accepted)	900
Bennett Bros.	1,000		

SWANSEA.—Accepted for the erection and completion of stable, Sketty, Swansea. Messrs. Wilson & Moxham, architects :—

Bennett Bros., Swansea	£131 0 0

TINTAGEL (Cornwall).—For additions to private hotel. Messrs. Wise & Wise, architects, Launceston :—

S. Lobb	£405	E. Sharland, Launceston (accepted)	£330
Hooper & Dennis	350		

WATFORD.—For sewering, paving, metalling, &c., Leavesden and three other roads, for the Local Board. Mr. D. Waterhouse, Engineer, 14, High-street, Watford :—

	Leavesden-road.	Copsewood-st.	Stanmore street.	Lowestoft-road.
	£ s.	£ s.	£ s.	£ s.
Dupont, Colchester*	233 0	223 0	106 0	127 0
Judge	274 0	256 17	130 10	141 0
Lee	352 0	310 10	149 12	225 0
Wimpey	337 0	329 0	157 0	184 0
Catley	270 0	260 0	120 0	150 0
Clifford	282 0	210 0	125 0	180 0
Fry	322 0	320 0	138 0	180 0
Free	299 10	283 10	142 10	165 10

* Accepted.

WINDSOR.—For the erection of large hall and premises, for the Liberal Club, situate at 19, Peascod-street, Windsor. Mr. John George Carey, architect, Gloucester-place, Windsor :—

G. H. Tucker	£1,151	E. Bampfylde, Frances-road, Windsor*	£1,056
A. H. Reavell	1,075		

* Accepted.

WOLVERHAMPTON.—For the erection of new Church schools, "All Saints," for 1,014 children. Messrs. J. R. Veall & Son, architects :—

T. Skett	£3,200	Guest & Son	£2,750
Wilcock & Co.	3,175	H. Gough, Wolverhampton (accepted)	2,744
H. Lovatt	2,782		

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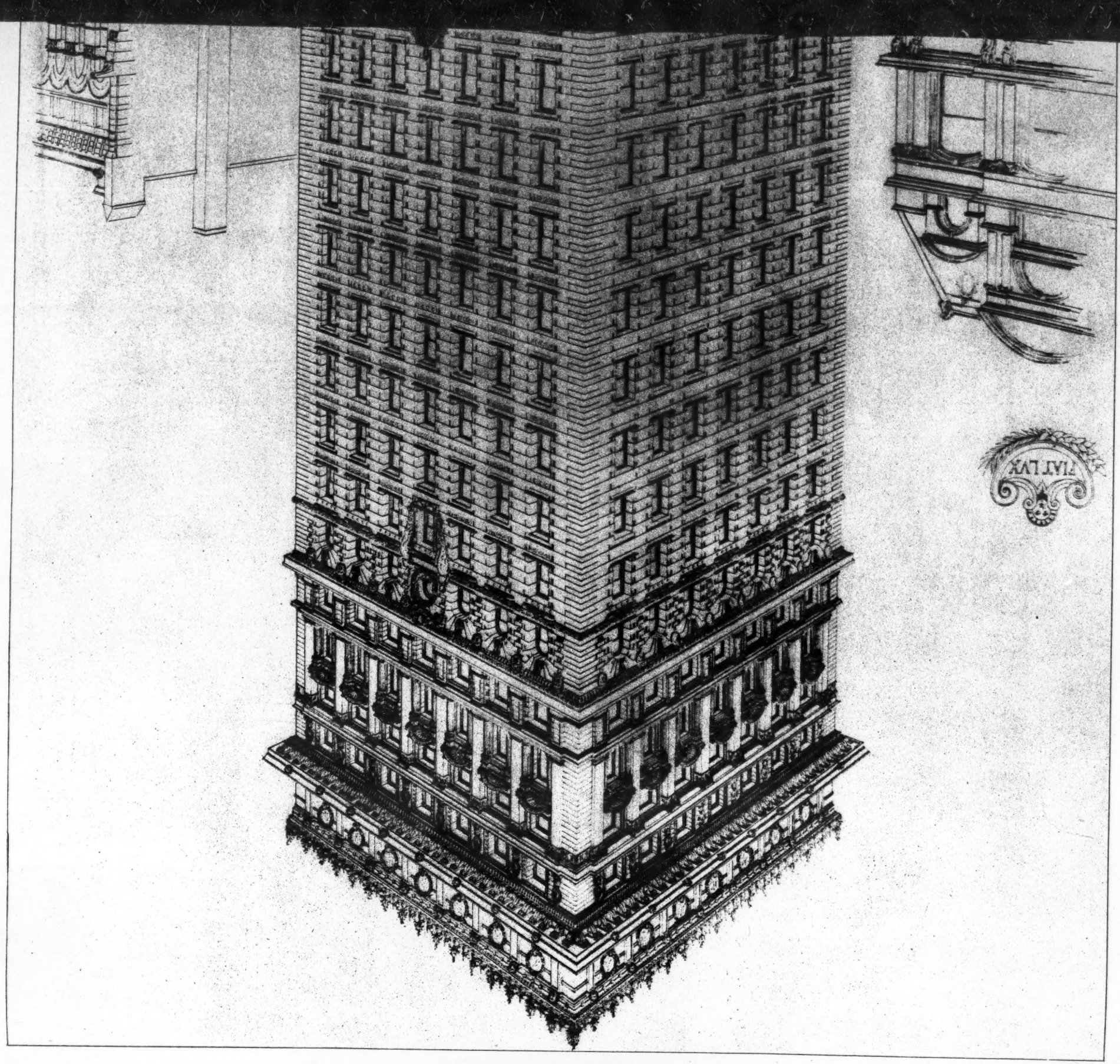
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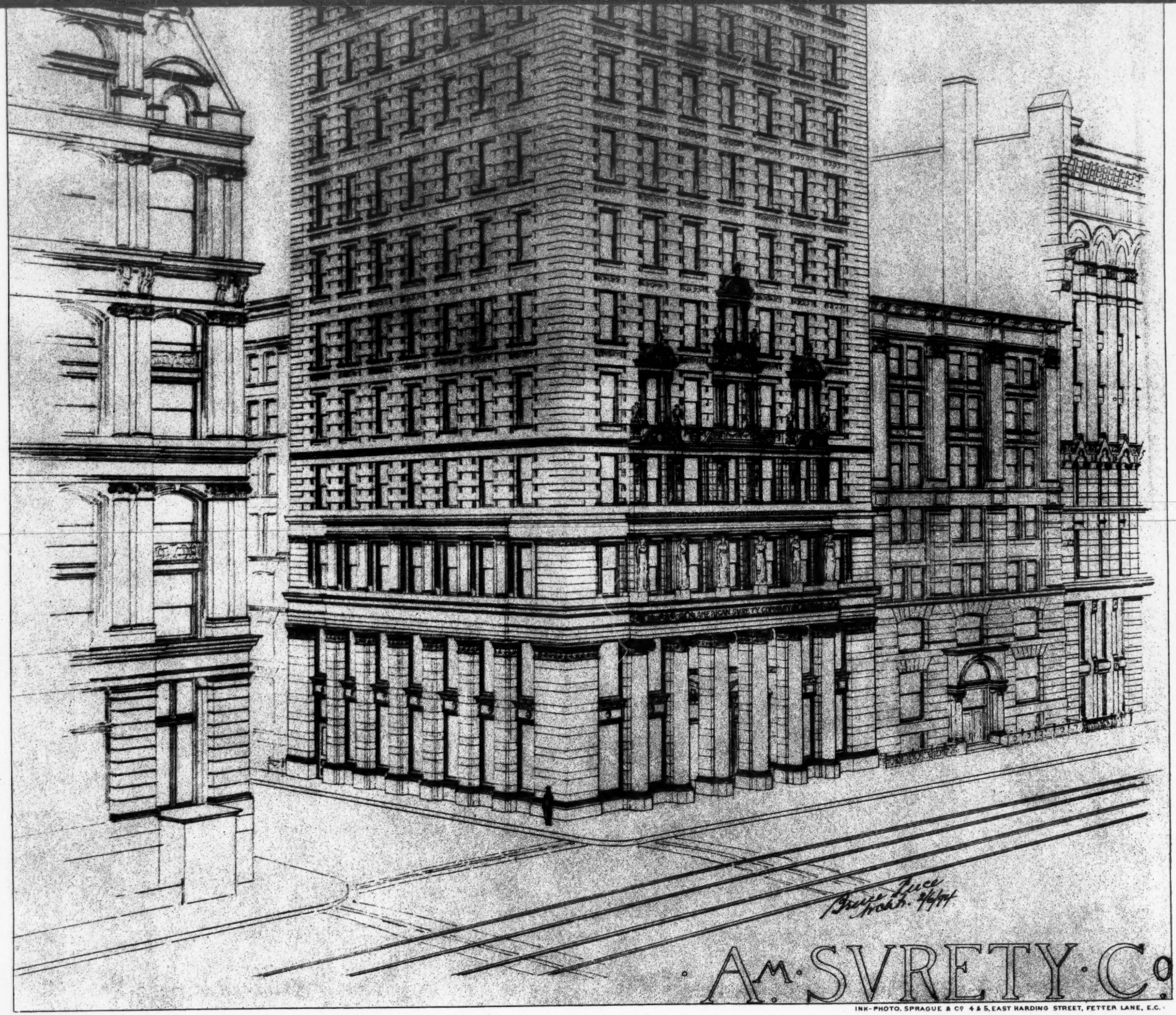

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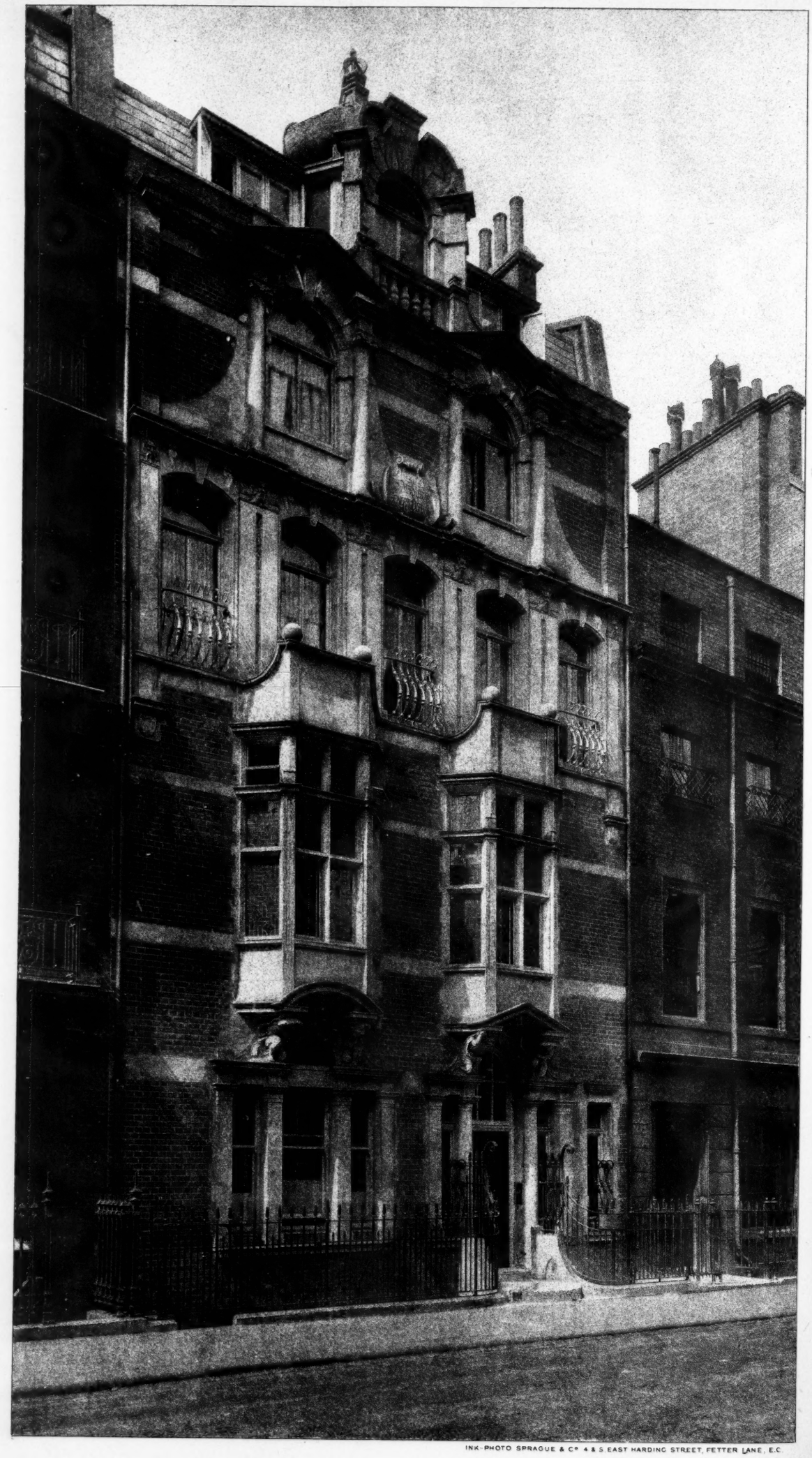

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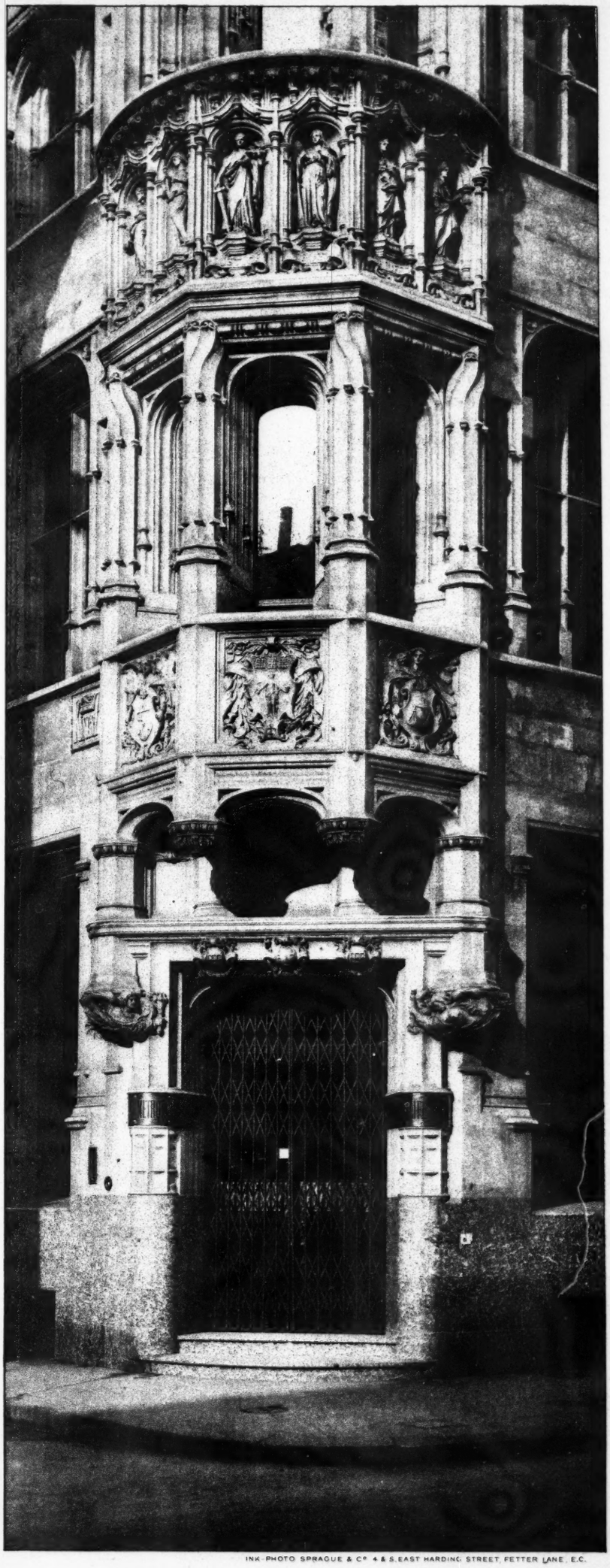

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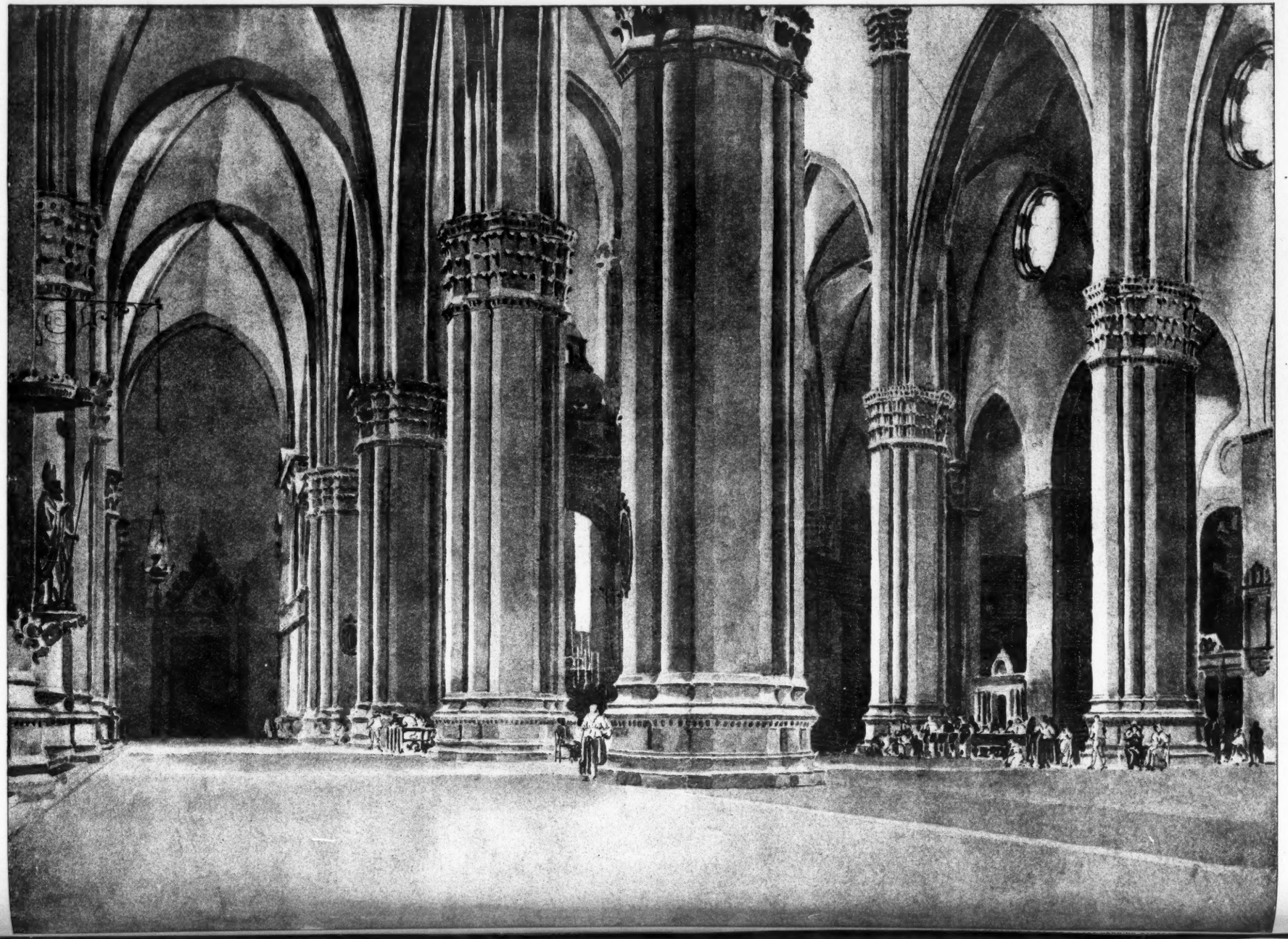
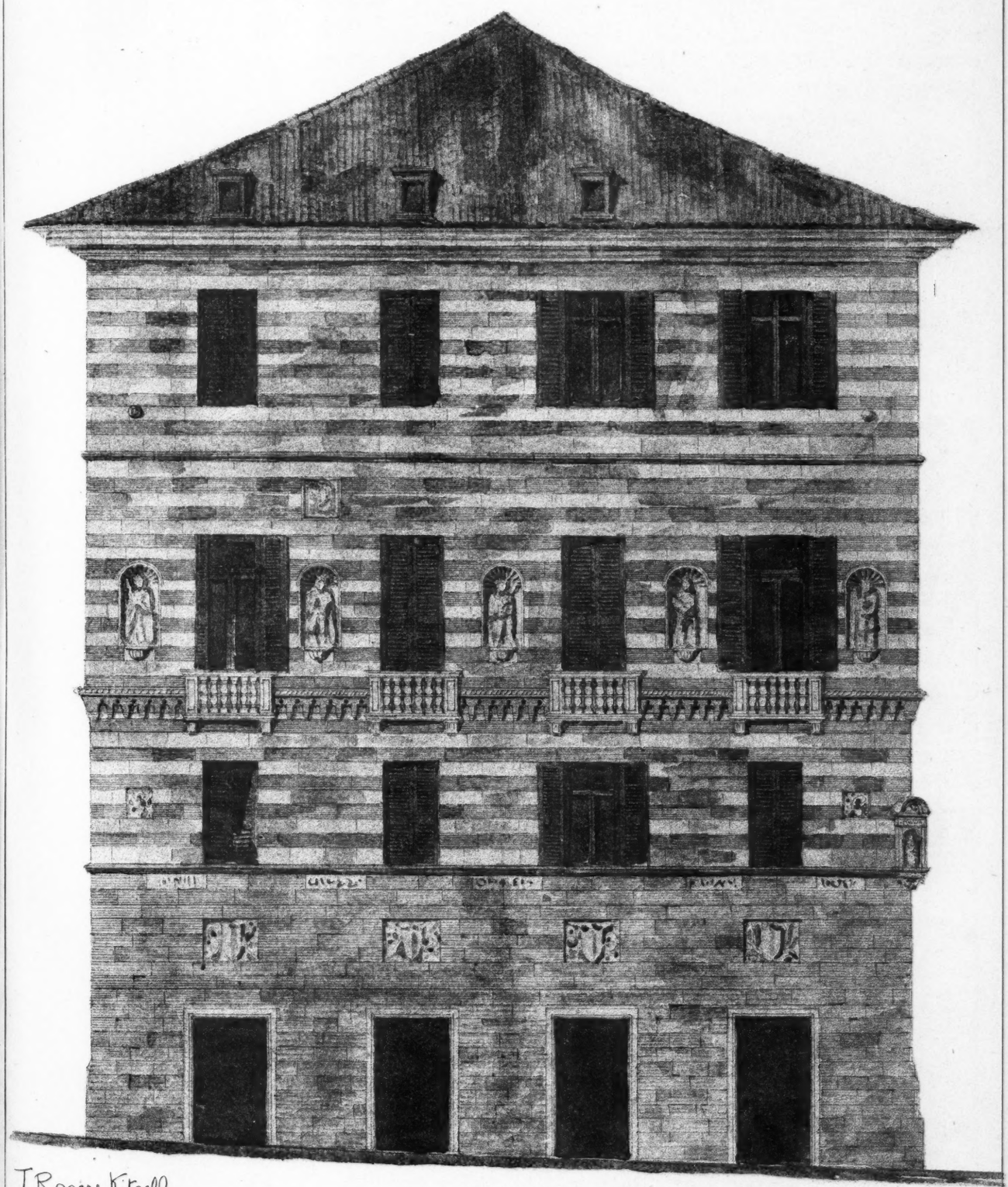


Palazzo della Casa (originally Spinola)
GENOA



T. Rogers Kitsell del
9/92

Elevation towards the Piazza delle Fontane Morose

Scale 10 5 0 10 20 30 40 50 feet

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